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THE THEORY OF DISTRIBUTION.<sup>1</sup>

DISTRIBUTION is the species of Exchange by which produce is divided between the parties who have contributed to its production.<sup>2</sup> Exchange being divided according as both, or one only, or neither of the parties have competitors, Distribution is similarly divided. The case in which both parties have competitors will here be first and principally considered.

The simplest type of this distributive exchange would be of a kind which is effected once for all, without reference to a series of future productions and exchanges. For example, to adapt an illustration used by Mr. Henry George,<sup>3</sup> let it be supposed that on a particular occasion

<sup>1</sup>The substance of some lectures which formed part of a course "On the Uses of Deductive Reasoning in Social Science," delivered at Harvard University in the autumn of 1902.

<sup>2</sup>This definition, if not made more specific, includes some kinds of International Trade, just as the generic definition of International Trade includes some kinds of Distribution. See *Economic Journal*, vol. iv. p. 34 and p. 49.

<sup>3</sup>*Progress and Poverty*, Book I. chap. iii.

each out of a number of white men hires one or more black men to assist in catching seals, on the agreement that each white man shall give his black assistants a certain proportion of the take, the terms having been settled in an open market in which any one white is free to bid against any other white and any one black against any other blacks. A conception more appropriate to existing industry is that each white agrees to pay in exchange for a certain amount of service a definite quantity of produce, not in general limited to the result of a particular operation. On a particular day less seal may be taken than the employer has agreed to give the employee for the day. In this case, even if payment is not made till the end of the day, the employer must pay for help on a particular day in part with seal caught on a previous day. He must pay altogether out of past accumulations when payment is made before the work is done. When the employer agrees to pay a definite amount, he cannot expect to gain on each day's transaction, but on an average of days.

This example is suited to illustrate some general properties of Exchange which attach to Distribution as a species of Exchange. Such are the laws which connect a change in the supply or demand upon one side of the market with a change in the advantage resulting from the transaction to the parties on either side. Thus, competition on both sides being presupposed, a decrease of supply in a technical sense of the term on the one side is, *ceteris paribus*, universally attended with detriment to the other side, but is not universally attended with detriment to the side on which the supply is decreased.<sup>1</sup> Accordingly, a limitation of supply on one side may be advantageous to that side, though not to both sides. The case of Distribution compared with Exchange in general

<sup>1</sup> See *Economic Journal*, vol. iv. p. 40.

in respect to such limitation of supply has only this peculiarity,—that the danger of this policy defeating itself is in the case of Distribution specially visible and threatening. There is an evident limit to what the black man dealing with the white man can get in exchange for a certain amount of his service; namely, the total product which that service utilized by the white man will on an average produce. To be sure, there is here but a case of the general principle that no one will give more for a thing, whether article of consumption or factor of production, than the equivalent of its total utility to him, which total diminishes as the quantity of the commodity is reduced. But this limit is less liable to escape attention when it is fixed by the material conditions of production rather than by the desires of consumers. Conspicuous warning is given to parties in the position of our black men not to attempt to benefit themselves by a considerable reduction in their supply of service; for, though they might possibly obtain a larger proportion, they would probably obtain a smaller portion, of the average product. The laws which have been stated and other general laws of Exchange are equally true in more complicated cases of Distribution.

So far, we have supposed only a single factor—the service of the black man, or, more generally, the factor  $\beta$ —offered by the competitors  $B_1$ ,  $B'_1$ , etc., in exchange for some of the produce  $a$  offered by the competitors  $A_1$ ,  $A_2$ , etc. Let us now introduce other kinds of factors,  $\gamma$ ,  $\delta$ , etc. And let us no longer suppose payment to be made by parties of the type  $A$ , in the kind of commodity which is produced, namely,  $a$ . A more concrete conception is that, besides the group  $A$ ,  $B$ ,  $C$ ,  $D$ , there is another and another group,— $A'$ ,  $B'$ ,  $C'$ ,  $D'$ ;  $A''$ ,  $B''$ ,  $C''$ ,  $D''$ ;—where each capital letter typifies a set of competing individuals. It may be supposed that each  $A$  purchases out of the finished product that he turns out—

namely,  $a$ —portions of the products  $a'$ ,  $a''$ , etc., which he distributes according to the law of supply and demand among parties of the type B, C, D. In fine, each A may pay for the factors of production altogether in some one product,  $a'''$ ,—“*numéraire*,” as happily conceived by M. Walras, or, less generally, money,—which the purveyors of the factors can exchange for the articles which they want. These articles need not be all commodities ready for consumption: some of the parties may care to purchase factors of production wherewith to play the rôle which has been assigned to A.

Having now obtained a general idea of the machinery by which distribution in a régime of competition is effected, let us go on to consider in more detail the parts of the mechanism. And, first, of the party that takes factors of production in exchange for products or the means of purchasing the same, the party above represented by the white man and labelled A. The functions of this party may be investigated by an ancient method which Sidgwick has proposed to rehabilitate<sup>1</sup> for the purposes of modern economics,—the search for a definition. What is an entrepreneur? Amid the diversified combinations of attributes which the industrial world presents—innumerable as the varieties in which vegetable nature riots—we ought to fix certain characters agreeably to the rule laid down by Mill under the head of Definition by Type. “Our conception of the class” should be “the image in our minds which is that of a specimen complete in all the characteristics.”<sup>2</sup> Four such type-specimens may be distinguished, ranged in a descending order according to the extent of functions ascribed to the entrepreneur. There is, *first*, the party whom the classical writers designate as the Capitalist, “who from funds in

<sup>1</sup> *Political Economy*, Book I. chap. ii. § 1.

<sup>2</sup> *Logic*, Book III. chap. vii.

his possession pays the wages of the laborers, or supports them during the work; who supplies the requisite buildings, materials, and tools, or machinery; and to whom, by the usual terms of the contract, the produce belongs to be disposed of at his pleasure."<sup>1</sup> This party will here be considered as devoting his care and savings to a single business. There is, *second*, the entrepreneur as portrayed by the late President Walker, "not an employer because he is a capitalist, or in proportion as he is a capitalist."<sup>2</sup> There is, *third*, the party to whom Mr. Hawley would wish to restrict the term "entrepreneur,"<sup>3</sup> the man who undertakes risks, of which class the most prominent, though not the only, species is the investor in joint stock companies.<sup>4</sup> *Fourth*, at the extreme degree of tenuity, is the entrepreneur who makes no profit. It might seem, indeed, as if this class did not call for special treatment, as differing only in the amount, not in the kind of remuneration. A fig-tree which bears no fruit is not therefore a tree of a distinct species. The horse which the Scotchman its owner had just trained to live upon a minimum, when the animal unfortunately died, was not therefore a new variety of the equine genus, requiring mention in a treatise on Natural History. However, as imposing theories have been connected with this last category, it comes within the scope of the present inquiry.

<sup>1</sup> Mill, *Political Economy*, Book II. chap. xv. § 1.

<sup>2</sup> *The Wages Question*, p. 228.

<sup>3</sup> *Quarterly Journal of Economics*, vol. vi. (1892) p. 283; vii. p. 459 *et seq.*; xv. p. 77 *et seq.*

<sup>4</sup> Compare Mangoldt, *Unternehmergewinn*, pp. 41-43. A person who does not work, "wie der stille Gesellschafter, hört darum nicht auf, wahrer Unternehmer zu sein." This type is the limiting case, short of which the trouble of management in various degrees is combined with what Mr. Hawley calls "the irksomeness of risk." As Professor Taussig says, "The corporation of modern times presents all possible varieties of the relation between active manager and idle investor. Nominally, the stockholders are a group of associated active capitalists. Practically, they range from shrewd managers to the most helpless of inactive investors." *Quarterly Journal of Economics*, vol. x. (1895) p. 83. Cf. Marshall, *Principles of Economics*, Book IV. chap. xii.

As our aim in comparing definitions should be, as Sidgwick says, "far less to decide which we ought to adopt than to apprehend the grounds on which each has commended itself to reflective minds,"—the hunt for a definition being followed not so much for the sake of the quarry as of the views which are incidentally presented,—let us go on to consider the principal propositions which the several conceptions are adapted to bring under our notice. In this inquiry much assistance will be obtained from a series of articles on cognate subjects in the *Quarterly Journal of Economics*,<sup>1</sup> which forms a sort of economic symposium.

The first definition is particularly suited to inquiries in which the parties who are in the habit of saving are contrasted as to their actions and interests with the parties who do not save,—approximately, the working classes. Specimens of such inquiry may be found in the fifth chapter of Mill's first book, and in Professor Taussig's important article on "The Employer's Place in Distribution."<sup>2</sup> It sounds paradoxical to add that the classical conception is not particularly adapted to illustrate the Ricardian theory of rent. But the definition of the capitalist above given is not easily reconciled with the received representation, that the capitalist's remuneration is equal to the number of doses which he lays out, multiplied by the remuneration of the last dose, the ordinary rate of profit. For, as Sidgwick argues, there is no adequate reason for expecting that "remuneration for management" as well as interest should tend to be at the same rate for capitals of different sizes.<sup>3</sup> Doubtless, the proposition is accurate enough to support the practical consequences which have been deduced from it. But, while fully admitting this, one may still agree with Sidgwick that "even Mill's ex-

<sup>1</sup> References to the series up to November, 1900, are given in the *Quarterly Journal of Economics*, vol. xv. p. 75.

<sup>2</sup> *Quarterly Journal of Economics*, vol. x. p. 72.

<sup>3</sup> *Political Economy*, 3d edition, Book II. chap. ix. § 3. Cf. chap. ii. § 8.

position" is "highly puzzling." For the idea of an economic person laying out doses up to the margin and obtaining the remuneration equal to the number of doses multiplied by the marginal productivity of each dose is only proper to the case in which the doses are for sale. But it is only in the conditions proper to our third definition that doses of capital are put on a market in exchange for profit. Perhaps the classical writers, having an eye to practice and not restricted by a sharp definition, often tacitly introduce the supposition that it is open to the "capitalist" to take part in some other business besides his own.<sup>1</sup>

The classical formula for surplus may be employed along with our *second* definition if we use the phrase "amount of outlay multiplied by average rate of return" to designate the amount which the entrepreneur of the Walker type pays in the way of interest from year to year to those who have lent him the means of carrying on his business. The surplus, according to this conception, will include not only the landlord's rent, but also the entrepreneur's net income. The portion of this surplus which accrues to the entrepreneur is not given by any simple formula. The conditions by which it is determined may be considered under two heads, corresponding to Cairnes's categories,—commercial and industrial competition. This distinction becomes clearest when, in conformity with the division of employments, we conceive different occupations to be separated by great gulfs, so that they who would pass from one to the other must make a complete, or at least a considerable, change in their business arrangements.<sup>2</sup> In virtue of the first kind of competition the

<sup>1</sup> Cp. Mill on various employments of capital, *Political Economy*, Book II, chap. xv. § 1, par. 4.

<sup>2</sup> See note to the present writer's Address to the British Association, Section F, 1889, which, written before the publication of Marshall's *Principles of Economics*, does not sufficiently emphasize the "principle of continuity." It

entrepreneur endeavors to make the best possible arrangements within the occupation which he has chosen. In virtue of the second kind of competition he endeavors to choose the occupation which will afford to him the greatest net advantage.

His motive under the first head may be understood by likening him to a monopolist who does not control the prices of the factors of production, nor yet the price of the product, the latter being fixed by a maximum law, or, rather, the case being that in which the monopoly is just becoming extinct, as Cournot would say, by the introduction of competitors, so that this entrepreneur can no longer sensibly alter at will the price of the product. Under such circumstances each entrepreneur will vary all the variables under his control up to the margin at which his own advantage becomes greatest. If he or we be content with a rough estimate of this advantage, it may be measured by the difference between his incomings and outgoings. His incomings may be regarded as the product multiplied by the price thereof, the amount of the product depending in some definite manner on the amounts of the factors of production which are employed.<sup>1</sup> The outgoings may be regarded as a sum of terms, each of which is the amount of a factor of production multiplied

may be observed that the two kinds of competition involve respectively two mathematical operations, the determination of a maximum, and of the greatest among maxima. There is the distinction between finding the top of a hill and finding the highest hill-top. The demarcations between the two species of competition and between the two mathematical operations are not coincident, so far as an entrepreneur, without leaving his business, may introduce considerable and, so to speak, integral changes in its organization, in accordance with the "principle of substitution" (Marshall). This principle seems to cover both the species of competition and both the mathematical operations. Doubtless, it is convenient to have a term applicable to every method by which maximum advantage is sought. Among such methods ought, perhaps, to be placed the *calculus of variations*, where the "margin of profitableness" is considered as "a sort of boundary line, cutting one after another every possible line of business organization." *Principles of Economics*, Book VI. chap. vii. § 7, 4th edition.

<sup>1</sup> Some function of the amounts.

by its price.<sup>1</sup> It follows<sup>2</sup> that in a state of equilibrium the increment of value produced by the last increment of a factor is just equal to its price. "The *marginal* shepherd . . . adds to the total produce a net value just equal to his own wages."<sup>3</sup>

<sup>1</sup>Or, rather, the accumulated price, in the sense explained by Professor Marshall (*Principles of Economics*, Book V. chap. iv. § 2, p. 432, 4th edition): "Looking backwards, we should sum up the net outlays, and add in accumulated compound interest on each element of outlay." Compare note xiv. of his mathematical Appendix. Abstraction was made of this sort of correction in the British Association Address to which reference has been made. For instance, it was tacitly assumed that the entrepreneur might have as much labor as he could pay for (at a prevailing rate of wages) at the time when the value of the finished product was realized. Professor Barone has pointed out the need of greater accuracy and a means of obtaining it by employing his remarkable conception of "capital of anticipation." *Giornale degli Economisti*, February, 1896.

<sup>2</sup>Marshall, *Principles of Economics*, Book VI. chap. i. § 8, 4th edition. Mr. J. A. Hobson's criticism of this doctrine exemplifies the difficulty of treating the more abstract parts of Political Economy without the appropriate mathematical conceptions. An elementary discipline in the differential calculus would have corrected the following passage and its context: "In order to measure the productivity of the last dose of labor, let us remove it. The diminution of the total product may be 8 per cent. This 8 per cent., according to Marshall's method, we ascribe to the last dose of labor. If now, restoring this dose of labor, we withdrew the last dose of capital, the reduction of the product might be 10 per cent. This 10 per cent. is regarded as the product of the last dose of capital. Similarly, the withdrawal of the last dose of land might seem to reduce the product by 10 per cent. What would be the effect of a simultaneous withdrawal of the last dose of each factor? According to Marshall's method, clearly 28 per cent. But is this correct?" *The Economics of Distribution*, p. 146. Quite correct, if in the spirit of the differential calculus we understand by dose an increment as small as possible, not as large as the objector pleases. He goes on: "Put the same experiment upon its broadest footing, and the overlapping fallacy becomes obvious. Take the labor, capital, and land as consisting of a single dose each; now withdraw the dose of labor, and the whole service of capital and land disappears. Is the destruction of the whole product a right measure of the productivity of the labor-dose alone?" (*loc. cit.*, p. 147.) Imagine an analogous application of the differential calculus in physics, "put upon its broadest footing," an objector substituting  $z$  wherever a mathematician had used  $dx$  or  $\Delta x$ !

<sup>3</sup>It being assumed that the function expressing the product in terms of the factors of production is such that for the values of the variables with which we are concerned the net income of the entrepreneur may be a maximum, let  $P$  be the amount of the product,  $\pi$  its price,  $a$ ,  $b$ ,  $c$ , amounts of factors of production,  $p_1$ ,  $p_2$ ,  $p_3$  etc., their respective prices—their actual prices—for a first approximation, their accumulated prices for a more accurate statement. The net income of the entrepreneur may then be written (abstraction being made of the entrepreneur's own effort)  $P = \pi f(a, b, c) - p_1 a - p_2 b - p_3 c$ . In order that this expression may be a maximum, the law of decreasing returns must hold in the *first* of the two senses elsewhere distinguished (*Economic Journal*, vol. ix. p. 293 and vol. vii. p. 46). The condi-

So far supposing the entrepreneur's work to be a constant quantity. In a more exact estimate the quantity which the entrepreneur seeks to maximize is the utility to be derived from his net income *minus* the disutility incident to its production. From this consideration it follows that the increment of utility due to the increment of product which is produced by the last increment of entrepreneur's work is just balanced by the increment of disutility due to that work.

To this condition is superadded the tendency towards equal net advantages in different occupations, resulting, as Professor Marshall has shown, not so much in the equal advantageousness as in the equal attractiveness of different occupations. The remuneration of the entrepreneur thus corresponding to his services may be classed along with the remuneration of the workman as "earnings," from a certain point of view, which is doubtless proper to the publicist and philosopher. As Mangoldt points out, "the circumstance that certain services do or do not attain a market price" does not "essentially alter the measure of their compensation." But there is another point of view which is proper to those who study the mechanism of distribution. As Professor Taussig well observes, "The cobbler who works alone in his petty shop gets in the main a return for labor as much as the workman in the shoe factory"; but "with regard to the machinery by which distribution is accomplished he [the cobbler] belongs in a different class from the hired laborer."<sup>1</sup>

tion must still be postulated when account is taken of the entrepreneur's subjective feelings,—effort and sacrifice in the way of production balanced by satisfaction immediate or prospective in the way of consumption. Nor is the case essentially altered when account is taken of the possibility (noticed by Professor Pareto, *Cours*, Art. 718) that the factors are not independent. Suppose that the amount of labor must always be in proportion to, or on any definite function of, the amount of land. Then, eliminating one of these quantities, we may treat the other as independent.

<sup>1</sup> *Quarterly Journal of Economics*, vol. x. (1895) p. 88. Professor Taussig goes on, "For an understanding of the machinery by which distribution is accomplished in modern times, the classification of sources of income should

The tendency to equality of net advantages of course only exists with respect to positions between which there is industrial competition. Accordingly, if the union in one person of natural abilities and money constitutes him a member of a "non-competing group," there is no presumption that the remuneration of such an entrepreneur will be exactly equal to the interest which he might have obtained by lending his money plus the salary which a person of his ability could command as a hired manager. There exists an excess above that sum, corresponding to what Mangoldt calls *Unternehmergewinn*. There may be excesses somewhat similarly caused by different degrees of ability and resources; the various "rents" enumerated by Mangoldt, which, as he observes, tend to diminish with the progress of society, so far as education becomes more diffused and it becomes easier for persons properly qualified to obtain the use of capital.

Some additional light on the functions of the entrepreneur may be obtained by comparing the profits in businesses of a different size. Suppose (for the sake of the argument) that the work and worry of the "boss" do not increase<sup>1</sup> with the scale of operations, how is the equality of net advantages which theory leads us to expect brought about? *Ceteris paribus*, might we not expect the entrepreneur's residue to be larger in the large industries?<sup>2</sup> The answer seems to be that, as equilibrium is approached under the joint influence of Commercial and Industrial Competition, the amounts of the factors<sup>3</sup> thus be different from that to be adopted for an explanation of the fundamental causes" (p. 88).

<sup>1</sup> That the trouble does not increase proportionately would be a more concrete supposition. As Sidgwick says, "Though it is more troublesome to manage a large factory than one half the size, it can hardly be twice as troublesome." *Political Economy*, Book II, chap. ix. §3.

<sup>2</sup> Cf. Marshall, *Economics of Industry*, 1st edition, Book II, chap. xii. §4.

<sup>3</sup> The factors generally, and sometimes also the form of the function expressing the quantity of the product in terms of the quantities of the factors used.

are so varied as to fulfil the condition that equal efforts and sacrifices on the part of the entrepreneur are attended with equal remuneration.<sup>1</sup> This equality is irrespective of identity in the relation between factors and product.<sup>2</sup> It may exist whether that identity is supposed to be present between industries of different sizes or, as in general to be supposed, there is no identity in the relation between factors and product for different individuals and industries.

The sort of adjustment thus postulated may be illustrated by a more familiar kind of surplus, that which accrues to the landlord according to the received theory of rent. Let there be a homogeneous tract of land equally adapted to the cultivation of wheat and barley, owned by a set of competing landlords, who accordingly obtain an equal rent per acre whether wheat or barley is to be grown thereon.<sup>3</sup> Now let a tax be imposed on the rent of land used for growing barley. There must result a new equilibrium, in which it remains true that owners of homogeneous land obtain equal rent per acre for whichever purpose used, and that cultivators of wheat and barley obtain, *ceteris paribus*, equal profits. These conditions can be fulfilled if the extent of the land applied to the cultivation of wheat is increased while the intensity of cultivation is diminished, and contrariwise for barley the extent is diminished and the intensity increased. This proposition holds good whether or not the relation between outlay and product<sup>4</sup>—corresponding to the shape of the curve in the illustration which Professor Marshall has made familiar<sup>5</sup>—is supposed identical for wheat and barley, and even if the cultivator seeking the greatest

<sup>1</sup>The equality is that of an ordinary equation, not an identity.

<sup>2</sup>The function which expresses the amount of the product in terms of the factors (including entrepreneur's work).

<sup>3</sup>Compare *Economic Journal*, vol. vii. p. 60, par. 1.

<sup>4</sup>The function expressing the product in terms of the outlay.

<sup>5</sup>*Economics of Industry*, 1st edition, p. 83. *Principles of Economics*, 4th edition, p. 232.

possible profits is able to vary that relation in accordance with the "law of substitution." It is here assumed that the case of manufacture is not so different from agriculture, but that an analogous adjustment of "margins" must be considered to take place between large and small businesses under the conditions specified, and generally between different industries where industrial competition acts.

A similar adjustment must be postulated when we entertain the *third* definition of entrepreneur, and consider competing investors in the stock of companies which may at first be supposed equal in respect of risk, though not in size. The competitors being free to invest units consisting, say, of £100 or less in any kind of business (of the given riskiness), large or small, it follows that a return to a dose anywhere invested tends, *ceteris paribus*, to be the same.<sup>1</sup> This result, which is by no means a deduction from the general formula considered under our second head, may be supposed to be brought about by an adjustment of margins of the sort which has been explained.

Now at length the Ricardian theory of rent as ordinarily stated becomes exact,—the payment for land rented by a joint stock company ought to be just the difference between the returns (after capital has been replaced and labor paid) and the amount of capital laid out, multiplied by an average rate of profit.

Though the class of shareholder is the principal, it is not the only species, of the third kind of entrepreneur, if defined so as to include all risk-takers. As Mr. Hawley observes,<sup>2</sup> workmen take some risk, entrepreneurs who have

<sup>1</sup> Accordingly, in order that equilibrium should be stable in this régime, investment in each industry ought to be pushed up to a point at which the law of decreasing returns is fulfilled in its *second* sense,—that the rate of total cost to total product increases with the increase of product. *Economic Journal*, vol. ix. p. 294.

<sup>2</sup> *Quarterly Journal of Economics*, vol. vii. (1893) p. 470.

no capital of their own run the risk of not being paid for their trouble. Enterprise may be taken as the essential attribute of a wide class entitled to a share in the national dividend along with the purveyors of land, labor, and capital. It does not seem to be a fatal objection that enterprise is hardly to be found in the concrete, separate from other factors of production. As Mr. Hawley replies,<sup>1</sup> labor and waiting, the attributes of familiar classes, are not to be found in abstract purity.

To some there may seem a more serious scruple: whether the undertaking of risk does even in thought constitute a fourth factor, whether the distinction between interest and the reward for risk is radical. It is all very well for Jevons to distinguish by different coefficients,  $p$  and  $q$ , the depreciation of future goods due to uncertainty and to remoteness. But, since the distant pleasure is always uncertain, can we really disentangle the two causes of depreciation?

Fortunately, these questions of logical definition and psychological analysis do not affect the important lessons respecting the participation of risk which have been taught by Professor J. B. Clark,—“that a corporation can run risks which the individual could not with prudence,” that by forming corporations “we reduce the initial terrors of business enterprises.”<sup>2</sup> It is an exemplification of the old maxim not to put all one’s eggs in one basket. If a hundred persons are carrying each a hundred eggs, each independently running the risk of tripping and by the loss of all or many of his eggs being exposed to great privation, this great danger will be averted, this chance of great disaster will be commuted for a somewhat higher probability of a much more easily borne loss, if each person carries only one of his own eggs and one belonging to

<sup>1</sup> *Quarterly Journal of Economics*, vol. xv. (1900) p. 78.

<sup>2</sup> “Insurance and Business Power,” *Quarterly Journal of Economics*, vol. vii. (1892) p. 40, *et seq.*

each of the rest, the total to be redistributed at the end of the journey to market or after sale.

It is noticeable that in Professor Clark's nomenclature this risk is borne by the capitalist. "The hazard of business falls on the capitalist." "Business repays men not only for their labors, but their fears." But this repayment is "not a part of mercantile profit": it is realized by the capitalist "as such." Admitting a real remuneration for risk, while giving a different name to the recipient from that which others have preferred, Professor Clark is perhaps not committed to the paradox which Mr. Hawley would affix upon the conception of the entrepreneur with vanishing profits,—our *fourth species*.

"To eliminate profit, wholly static conditions must be more absolute. . . . There must be a cessation of all variations due to the changeableness of the environment due to fire, lightning, hail. We must imagine industrial society in the static condition as an automatic machine, . . . working without friction in an absolutely unchangeable environment."<sup>1</sup>

This idea of perfect tranquillity is certainly inappropriate to the troubled world in which we live. "Things are always finding their level," like a fluctuating and, in nautical phrase, "confused" sea. The oscillating character of the waves is quite consistent with a gradual change of level, as when the tide is flowing. It is a legitimate conception, familiar in statistics, to regard a phenomenon as hovering about an average, even though that average is known to be changing. Let the great tidologist calculate the dynamics of the flow, but let him not convey the impression that but for the action of this flow there would be the level of the proverbial mill-pond. Very probably, however, Professor Clark would recognize the continuance of risk not involving secular progress,—due to unpredictable weather or credit cycles, for example,—but would

<sup>1</sup> *Quarterly Journal of Economics*, vol. xv. (1900) p. 91.

regard the remuneration for undergoing such risk as accruing to the "capitalist as such" rather than, with Mangoldt and others, as a part of the entrepreneur's gain. With regard to other elements of remuneration it is more doubtful whether Professor Clark would accept Mangoldt's statements as to the permanence of the entrepreneur's gain,—statements which read with their context, and attention being paid to Mangoldt's terminology, deserve much consideration.

We must suppose the existence of undertaker's gain [*Unternehmergewinn*],—otherwise what object has the entrepreneur to increase his business? (substance of p. 50).

The undertaker's gain (*Unternehmergewinn*) is "not simply something transitory," but a "permanent species of income" (p. 51).

"The undertaker's remuneration [*Unternehmerlohn*] preserves its position, though in a limited form" (p. 105. Cf. p. 169).

Perhaps Professor Clark would be satisfied with the "limited form" of the remuneration and the disappearance of certain other elements.<sup>1</sup>

It is always pleasant to believe that one's differences with high authorities are only verbal. This satisfaction may now be enjoyed with respect to M. Walras's doctrine that the entrepreneur makes neither gain nor loss. Professor Pareto<sup>2</sup> has made it clear that, as the object of the entrepreneur is to procure the greatest amount of satisfaction, so his income is not to be considered as *nil*, in the ordinary sense of the term. Rightly interpreted, the doctrine that "the entrepreneur makes neither gain nor loss," taken in connection with the "coefficients of production," appears to cover all the conditions of equilibrium, both those which are involved in what Cairnes called "industrial competition" and those which would be satisfied

<sup>1</sup> *Cp.* above, p. 169.

<sup>2</sup> *Cours d'Économie Politique*, passages referring to "entrepreneur."

even if we made abstraction of the tendency to equal advantages in different occupations.<sup>1</sup> But, while we accept the ideas, we are not bound to swear to the words, of any master; and the expression in question may be objected to on several grounds which will repay examination. It is violently contrary to usage; it lends itself to a dangerous equivoque; and it has led distinguished economists to paradoxical conclusions.

No amount of authority and explanation can make it other than a strange use of language to describe a man who is making a large income, and striving to make it larger, as "making neither gain nor loss." There is an oddity about the phrase which recalls the use of "gratis" by Sir Murtagh's lady in *Castle Rackrent*: "My lady was very charitable in her own way. She had a charity school for poor children where they were taught to read and write gratis, and where they were kept well to spinning gratis for my lady in return."

A more serious objection is that the term "making neither gain nor loss" has to be used in two different senses almost in the same breath. It is a sufficiently difficult lesson for the plain man to learn that the maximum of income which the entrepreneur aims at realizing is zero. But the difficulty is doubled when he comes to learn—as he must in dealing with a maximum problem—that the increment to that income due to the last increment of any factor of production is also zero. There is apt to arise a confusion between conditions belonging to the total and to the marginal quantity,—an ambiguity of a kind which has before now proved detrimental in economics.<sup>2</sup> A hasty reader of Professor Walras might sup-

<sup>1</sup> Cp. above, p. 166.

<sup>2</sup> Mill's hesitation between equal sacrifice and least sacrifice as the criteria of taxation may seem due to a confusion of this kind, as pointed out by the present writer in the *Economic Journal*, 1897. (Cp. *Mathematical Psychics*, p. 118.) Mill's ambiguity had already been noticed by Professor Carver in his article on "The Ethical Basis of Distribution" in the *Annals of the American Academy* for 1895, p. 95.

pose that it was intended to affirm that the entrepreneur made neither gain nor loss *at the margin*: whereas the meaning is, rather, that nothing remains to be distributed—on an average and apart from oscillations—after that the entrepreneur has paid a normal salary to himself.<sup>1</sup>

The implication that the remuneration of entrepreneur labor may be treated like that of any other labor presents some difficulty. It is the one obscure topic in Professor Barone's brilliant studies on Distribution.<sup>2</sup> His observations deserve to be quoted at some length. He first (in a note on p. 132) announces as true in a particular case, what is here regarded as true in general, that "there must be left to the entrepreneur's profit (*profitto dell' impresa*) the differentiating character of 'residual claimant'; and nothing else can be said but that profit is formed by the difference between the entire product and the remunerations of the various factors corresponding to (*ragguagliate*) their respective marginal productivities." But Professor Barone regards this enunciation as only provisional. He promises to show in a later section that

"with the increase in the number of the competing entrepreneurs the profit of the undertaking tends to lose more and more the character of residual claimant, and tends to conform to that of the law of marginal productivity."

In the later section he says:—

"If on the market there is only one entrepreneur Titius, and if he does not monopolize the product, that is if he in the management of his business arranges [*fa in modo di*] to obtain not indeed the greatest monopoly profit, but the greatest profit obtainable in a régime of free competition, . . . his profit will be [a surplus indicated by a figure which is not here reproduced]. But, if there is an entrepreneur Caius capable of entering into competition with the

<sup>1</sup> Cf. Parato, *Cours*, Art. 57, "his salary as director of the enterprise being comprised in the expenses of production"; and the similar expressions of Professor Barone, quoted below.

<sup>2</sup> *Giornale degli Economisti*, February, 1896.

preceding, . . . the profit of Titius will be reduced below what he had when he was alone on the market. And, if there is a third employer also capable of entering into competition with the first two, the profit of Titius will be reduced still more. The more the number of employers increases, the more there is a necessary tendency to a *limiting state* in which all the employers who continue to produce have a remuneration which, like that of any other labor, satisfies the condition that the marginal disutility [penosità] of the same labor [medesimo] shall be equal to the marginal utility of the returns which that labor procures, *and not more than this*. And, since it is this equality which characterizes the return to labor, it follows (*ne viene*) as a legitimate consequence that in this limiting state the remuneration of the entrepreneur may be treated like the remuneration of any other species of labor."

The fact that wages are usually paid in advance is not to the point, as Professor Barone very properly observes. He proceeds:—

"These considerations seem to me to prove to demonstration how profound and correct is Walras's conception of an entrepreneur who under the conditions postulated makes neither gain nor loss after having paid himself (or others, it is indifferent which) the remuneration of the labor of direction and conduct of production. And, if it is no wonder that this conception should not be comprehended by economists who have really very vague ideas of quantity, it is absolutely astounding that the conception should have been also made the subject of criticism by other economists to whom the notions of quantity are quite familiar. . . . I frankly must confess myself absolutely incapable of understanding how any difficulty whatever can arise as to the validity [literally, the affirmation] of this conception, which is indeed most simple."

Having called once more attention to the abstract character of the conditions, Professor Barone reiterates:—

"In such conditions the law of marginal productivity extends to the remuneration of the entrepreneur; and, after having remunerated all the factors (the work of the entrepreneur included) in proportion to their marginal productivity [with a discount corresponding to the time elapsing between the service and the product], there remains no undistributed residue."

If there could be any doubt about the meaning of this thesis, it would be removed by the unequivocal language of symbols employed in the Appendix,<sup>1</sup> where, by way of illustration, the labor of the entrepreneur is expressed by the total number of hours of work that he devotes to the business.

Upon this it may be remarked that the last state of Titius, after Caius and the rest have entered as competitors, seems identical with the case of "extinct" monopoly which was above<sup>2</sup> adduced, in order to exhibit the motives of the entrepreneur. As there appears, both before and after the competitors have entered the remuneration of the entrepreneurs, in Professor Barone's phrase, "satisfies the condition that the marginal disutility of the labor shall be equal to the marginal utility of the return which that labor procures." But neither before nor after the competitors have entered is there any reason for regarding the remuneration of the entrepreneur as the product of the number of doses (*e.g.*, hours worked) and the marginal productivity of a dose (multiplied by a coefficient depending on the length of the productive process<sup>3</sup>). It is only with respect to factors of production which are articles of exchange that the proposed law of remuneration, the "law of marginal productivity," is fulfilled in a régime of competition. Thus, in our typical example of black men assisting white men to catch seals,<sup>4</sup> what the black man gets in a perfect market is an amount of seal equal to the number of units of service which he supplies, multiplied by the quantity of seal for the sake of which he is just induced to offer an additional unit of service, the unit employed being a small quantity. Likewise, what the white

<sup>1</sup> *Loc. cit.*, p. 153.

<sup>2</sup> Above, p. 166.

<sup>3</sup> Cf. note to p. 167 above; but remark that the correction proposed by Professor Barone for the effect of time is not identical with Professor Marshall's accumulation of price.

<sup>4</sup> Above, p. 160.

man gets in exchange is an amount of service equal to the amount of seal which he distributes to the black man, multiplied by the quantity of service for the sake of which he is just induced to offer an additional unit of produce. If the amount of service rendered may be taken as the measure of the black man's labor (or of some other factor of production supplied by him), the proposed law holds good for his share of the distributed produce. But, as the amount of produce given by the white man in exchange for services cannot be taken as the measure of his work, the proposed law does not hold for his share of the distributed produce.

This discussion will appear otiose to the economists who are not conversant with the science of quantity. The proposition that the remuneration of the entrepreneur is equal to the amount of his work multiplied by its marginal productivity will be interpreted by them as signifying simply that he will get more, *ceteris paribus*, the more work he does and the greater the addition to the produce which he would effect by doing a little more work. For them a *product* will do duty for a function of two variables which increases with the increase of either variable. But this easy interpretation is not open to mathematical economists. They must be aware that the formulæ in question affirm something more than the simple truth above stated. If nothing more than that simple truth can be deduced from the theory of Exchange, it ought not to be a matter of surprise that the "law of marginal productivity" applied to the entrepreneur should be challenged by those who affect mathematical precision.

The law of marginal productivity, then, is not fulfilled in the sense that the portion of the national dividend accruing to entrepreneurs is a sum of terms each of which is the product of an entrepreneur's work reckoned in hours, or similar doses, and the marginal productivity of a dose

(multiplied by a certain coefficient<sup>1</sup>). Let us see whether the law is fulfilled when we take a larger dose, the total work of an entrepreneur. The law will then be fulfilled if the net gains of any entrepreneur tend to be equal to what society would lose if he were removed. Can this be generally affirmed? Let us look at the typical case of distribution between whites and blacks above<sup>2</sup> instanced. It may be granted that the white entrepreneur does not normally obtain more than he adds to the common stock. For otherwise the society would gain through his removal, his black assistants either hunting by themselves or being taken on by other entrepreneurs. And neither of these suppositions is possible in a state of equilibrium; for, if either were possible, it would have been already brought about by the free play of self-interest, in a régime of competition. The gain of a white man, then, cannot be greater, but where is the proof that it cannot be less, than the loss which would be occasioned to the society by his removal?

Such a proof might be forthcoming if the white men were not, as hitherto supposed, genuine entrepreneurs, but managers acting under entrepreneurs of our third species, the stockholder. The income of the managers will fulfil the marginal law of productivity if the new entrepreneurs are conceived as competing against each other in such wise as to bring about the result that no manager earns more or less than what he adds to the profits of his employers. The income of the new entrepreneurs also fulfils the law; for the remuneration of this species of entrepreneur—unlike that of entrepreneurs in general—is proportional to the amount of the factor which they contribute,—namely, capital invested.<sup>3</sup>

The affinity between entrepreneurs and salaried managers in modern industry supplies the missing link for the general proof of the new law. For, normally, it may be pre-

<sup>1</sup> Above, p. 186.

<sup>2</sup> Above, p. 160.

<sup>3</sup> Above, p. 171.

sumed that an independent entrepreneur (of our second species) does not make less (in addition to the profits that he makes or might have made by investing in some other business money of his own) than a manager of like abilities. And perhaps he does not make much more. The difference is possibly small,<sup>1</sup> probably diminishing, certainly difficult to verify statistically, perhaps hardly worth fighting about. Interpreted cautiously, the law holds good approximately. If the remuneration of the manager, like that of the "marginal shepherd," is just equal to the amount that he produces, then the remuneration of the entrepreneur is not very different from the amount that he produces. But, if the law of marginal productivity is fulfilled for the manager only while we consider doses less than his total work, say hours of work, then the law is fulfilled for the entrepreneur only so far as it is presumed from the similarity in nature and habits between the manager and entrepreneur that, when the total remuneration of each is nearly the same, the amount of work and its marginal productivity are not very different.

According to the interpretation which has been suggested, the new law of distribution would be fulfilled by an adjustment of the quantities involved,<sup>2</sup> the amount of each factor, not simply in virtue of the relation which subsists between the product and the factors of production.<sup>3</sup> The sense in which the law is fulfilled is otherwise conceived by a distinguished mathematical economist, Mr. Wicksteed, who regards the law as following from "the modern investigations into the theory of value,"<sup>4</sup> and

<sup>1</sup> Mainly and apart from "rents" of the order of quantity called by Mankoldt *Unternehmerlohn*.

<sup>2</sup> Cp. p. 169, above.

<sup>3</sup> The form of a function such as that represented by  $f$  in a preceding note (p. 167), or rather what that function becomes when the work of the entrepreneur enters as a variable.

<sup>4</sup> *Essay on the Co-ordination of the Laws of Distribution* (1894), § 2, and prefatory note.

seems to treat it as a clue whereby to investigate the nature of the relation between the product and the factors of production, including the work of the entrepreneur.<sup>1</sup> In fact, he finds that the product depends upon the factors by a relation which mathematicians designate a "homogeneous function of the first degree."<sup>2</sup> This is certainly a remarkable discovery; for the relation between product and factors is to be considered to hold good irrespectively of the play of the market: "an analytical and synthetical law of composition and resolution of industrial factors and products which would hold equally in Robinson Crusoe's island, in an American religious commune, in an Indian village ruled by custom, and in the competitive centres of the typical modern industries."<sup>3</sup> There is a magnificence in this generalization which recalls the youth of philosophy. Justice is a perfect cube, said the ancient sage; and rational conduct is a homogeneous function, adds the modern *savant*. A theory which points to conclusions so paradoxical ought surely to be enunciated with caution.

To sum up this criticism, as Distribution is a species of Exchange, it seems undesirable to employ a phrase so foreign to the general theory of Exchange as the dictum

<sup>1</sup>The product being a function of the factors of production, we have  $P=f(a, b, c, \dots)$ ; and the form of the function is invariably such that, if we have  $\pi=f(a, \beta, \gamma, \dots)$ , we shall also have  $v\pi=f(va, v\beta, v\gamma, \dots)$  (*loc. cit.*, p. 4).

"Let the special product to be distributed ( $P$ ) be regarded as a function ( $F$ ) of the various factors of production ( $A, B, C, \dots$ )" (*loc. cit.*, p. 8).

$$\frac{dP}{dA} A + \frac{dP}{dB} B + \frac{dP}{dC} C + \dots = P$$

"under ordinary conditions of competitive industry" (*loc. cit.*, pp. 33-38).

<sup>2</sup>As pointed out by Professor Flux in his review of Mr. Wicksteed's essay, *Economic Journal*, vol. iv. p. 311. In Mr. Wicksteed's notation the function  $F$  must be of the general form  $A\psi\left(\frac{B}{A}, \frac{C}{A}, \dots\right)$ , where  $\psi$  is an arbitrary function. See Forsyth, *Differential Equations*, Art. 189, or Boole, *Differential Equations*, chap. xiv., Art. 6.

<sup>3</sup>*Loc. cit.*, p. 42.

that one of the parties to an exchange normally gains nothing. Innocently used at first, such paradoxes are calculated to lead to confusion and misrepresentation.

A similar remark applies to another form of the gainless entrepreneur, involved in Walker's analogy between profits and agricultural rent. Even on the simpler and provisional view which is confined to short periods and commercial competition, this form of expression has no advantage over the terminology proper to the general theory of Exchange.<sup>1</sup> When we consider long periods and industrial competition, Walker's theory has the graver disadvantage of not distinguishing between rent and quasi-rent. It seems to be generally admitted that Walker's masterly portrait of the industrial captain was not improved by his representation of profits as rent.<sup>2</sup>

Having now considered the party that takes factors of production in return for products, or the proceeds thereof, let us look at the other side of the counter,—the triangular counter across which we may imagine the three factors of land and labor and capital to be exchanged, if we place in the interior of the triangle an entrepreneur of Walker's type, our second species, dealing with three parties in quick succession, and in some sense simultaneously.<sup>3</sup>

At the height of abstraction from which it is here attempted to survey the economic world, what appears the most salient feature in the transactions respecting *land* is the circumstance that the quantity of ground, or at least space,<sup>4</sup> is limited, not capable of being increased

<sup>1</sup> As argued by the present writer in his Address to the British Association for the Advancement of Science, 1889, written before the publication of Professor Marshall's weightier judgment in the *Principles of Economics*.

<sup>2</sup> Compare Mr. J. H. Curran's temperate criticism in his study on Walker (in Conrad's *Abhandlungen*).

<sup>3</sup> In the sense in which equations are called simultaneous.

<sup>4</sup> Cf. Marshall on "extension" as the "fundamental attribute of land." *Principles of Economics*, Book IV. chap. ii. p. 221 *et seq.*, 4th edition. Not even the enterprise of Boston, which converted marshes into the site of noble

by human effort. From this property flow most of the general theories relating to the landlord's share in distribution,—that a tax on rent (proper) falls wholly on the land, that the remission of agricultural rent by landlords would not benefit the consumer,<sup>1</sup> and other propositions often connected with the formula that "rent does not enter into the cost of production." Some remarks on that time-honored formula seem called for here. It would not be consistent to have complained of the expression that "the entrepreneur makes no gain" as perplexing and apt to mislead, however innocently used by high authorities, and to pass over in silence this dictum about rent, against which and in favor of which much the same is to be said. Certainly, it is supported by very high authority,—the authority not only of Ricardo and Professor Marshall, but also of Hume, who in the letter which he wrote to Adam Smith on the publication of *The Wealth of Nations* (the letter which, written a few months before Hume's death, may be considered his economic testament) says, "I cannot think that the rent of farms makes any part of the price of the produce, but that the price is determined altogether by the quantity and the demand."<sup>2</sup> On the other hand, it can hardly be denied that the dictum in question is calculated to obscure the

streets, can form an exception to the law so stated. But the more familiar statement is accurate enough. For, as Professor Bullock has said (at the banquet of the Massachusetts Single Tax League, 1902), "it may be safely contended that the additions which man can make to the land surface of the globe are so small as to be a negligible quantity when we compare land with the things that human labor places upon it."

<sup>1</sup>The received proposition is of the nature of a first approximation, as pointed out in the *Economic Journal*, vol. vii. (1867) p. 57. When the writer there observed that "there might be now required a higher rate of remuneration to evoke the same exertion from the cultivator," *et seq.*, he was not aware that he had been anticipated by the very first writer who stated the true theory of rent, James Anderson, who says that the only consequence of remitting rents "would be the enriching one class of farmers at the expense of their proprietors, without producing the smallest benefit to the consumers of grain,—perhaps the reverse, as the industry of the farmer might be slackened." *Enquiry into the Nature of the Corn-laws* (1777) p. 48, note.

<sup>2</sup>Burton's Life of Hume, vol. ii. p. 486.

truth that "land is but a particular form of capital from the point of view of the individual manufacturer or cultivator";<sup>1</sup> that, as he doses land with capital and labor, so he doses capital and labor with land,<sup>2</sup> up to a margin of profitableness. And, in fact, the similarity of the factors of production from the entrepreneur's point of view does not seem to have been apprehended in all its generality by the classical writers. Thus Fawcett, who may be taken as a type, when explaining rent seems to posit the size of the farm as something fixed and constant.<sup>3</sup> J. S. Mill argues that "there is always some agricultural capital which pays no rent,"<sup>4</sup> not noticing the counter-argument that there is a portion of land which pays no interest.<sup>5</sup> These imperfections belong now, it may be hoped, to past history. And yet that the description of rent as not entering into price is apt to prove misleading may be inferred from the many protests which eminent critics have raised against Professor Marshall's use of the time-honored phrase.<sup>6</sup> Their criticisms attest the correctness of their own views rather than their capacity of appreciating the views of others. What should we say of critics who should think fit to read Mill a lecture on the errors of the Mercantile system, because Mill had employed the terms "favorable and unfavorable" exchanges! To have attributed to Professor Marshall the very error which he

<sup>1</sup> Marshall, *Principles of Economics*, Book V. chap. ii. § 5.

<sup>2</sup> The propriety of reversing the classical formula so as to make dose and patient change places is well expressed by Mr. Wicksteed, *Laws of Distribution*, p. 20.

<sup>3</sup> *Manual of Political Economy*, Book III. chap. iii.

<sup>4</sup> *Political Economy*, Book II. chap. xvi. § 4.

<sup>5</sup> As noticed by Professor J. B. Clark and other writers mentioned by Professor Fetter in the *Quarterly Journal of Economics*, vol. xv., note to p. 436.

<sup>6</sup> See in particular Hobson's *Economics of Distribution*, chap. iv.; Fetter, "The Passing of the Old Rent Concept," v. and vii. (3), *Quarterly Journal of Economics*, vol. xv. (1901); J. B. Clark, *Political Science Quarterly*, March, 1891; Wicksteed, *Laws of Distribution*, p. 47 (the last critic not referring *nominaliter* to Professor Marshall). For a more sympathetic criticism of Professor Marshall's doctrine see *Economic Journal*, vol. v. p. 589.

by his doctrine of the "Margin-of-building" has done more than any other economist to obviate would be unpardonable if it were not excused by the misleading associations of an unfortunate phrase.

To return to the real, from the seeming, import of the phrase, we see that, as the offer of land is in general attended with no real cost, a tax upon the payment for land does not disturb production.<sup>1</sup> On grounds of distribution, too, a sort of income which increases without any effort on the part of the recipient is *prima facie* a suitable object for a specially heavy impost. On these grounds Mill's proposal to tax away the future unearned increment of rent is defensible, if accompanied with Mill's proviso, that existing interests should not be disturbed. For, as argued elsewhere,<sup>2</sup> a special tax on existing incomes from land would violate the two principal conditions of a good tax: it would both tend to diminish the amount of production, and also to impair the equality in the distribution of burdens between the owners of incomes derived from land and from other kinds of property.

The practical importance of Mill's proposal is greatly reduced by the proviso with which it is accompanied. For, in order that the State may make a good bargain by giving the market price for a certain class of future goods, the State must be able to look further ahead—must exercise the telescopic faculty of prospectiveness in a higher degree—than the ordinary capitalist. And it may well be doubted whether this condition is fulfilled by the politicians who act on behalf of the State. We hear much of instances,

<sup>1</sup> As Professor Carver said lately (at the banquet of the Massachusetts Single Tax League, 1902), a person who thinks that the repressive effect of a tax on land is at all comparable with the repressive effect of a tax on the products of industry must have an eye for exceptions like "a certain senator of whom it was said that he could see a fly on a barn-door without being able to see the barn or the door either." The incident in question may be elucidated by representing the "supply-curve" of land as a straight line. *Cp. Economic Journal*, vol. vii. p. 60.

<sup>2</sup> *Economic Journal*, 1900, "On the Incidence of Urban Rates," p. 506 et seq.

like that of Chicago, where the value of sites is said to have multiplied some eighty-fold in half a century; but we hear little of proposals to buy up at their present market value the site of some future Chicago, unless, indeed, as part of a scheme for Land Nationalization, which does not include compensation to vested interests. Unlike the husbandman, who plants trees the fruit of which he will not himself see, the advocates of a single tax and other socialist agitators grasp at the standing crop which has been sown by others, heedless whether cultivation in the future is thereby discouraged.

But, even if their outlook were as distant as it is bounded, there would remain the possibility that, though looking far ahead, they might not discern distant objects clearly. Mill cannot be accused of the shortsightedness which sacrifices the future to the present. He looked very far ahead. But he did not see what was coming, the fall of English rents. Actuated by the highest motives, he proposed an arrangement which was perfectly just to the landlords, and would have proved perfectly disastrous to the State.

Passing in the traditional order from *Land* to *Labor*, we may begin by considering a very abstract labor market, in which the difficulty caused by the "advance" of wages is kept out of sight.<sup>1</sup> The following example of such a labor market may be worth reproducing, although it is not a genuine case of Distribution:—

Let us suppose several rich men about to ascend some an easy mountain, some a difficult one, each ascent occupying a day. And let these rich travellers enter into negotiations with a set of porters who may be supposed many times more numerous than the

<sup>1</sup> There is an abstract point of view from which, as Professor Barone well observes (*Giornale degli Economisti*, loc. cit.), the circumstance that wages are paid in advance is of secondary importance.

employers. An arrangement according to which the remuneration for ascending the easy and the difficult mountains was the same could not stand: it would not be renewed from time to time. For some of the porters employed on the difficult mountains, seeking to minimize the disutility of their task, would offer their services to travellers on the easy mountains at a rate somewhat less than the temporarily prevailing one. Nor would equilibrium be reached until each porter employed on a difficult mountain received an excess above the fee for the ascent of an easy one sufficient to compensate him for the extra toil. At the same time—simultaneously, in a mathematical sense—the increment of satisfaction due to the last porter taken on by each traveller would just compensate the purchaser of that labor for his outlay on it.<sup>1</sup>

In this example the great number of the employees as compared with the employers is not an accidental circumstance. Suppose that the arrangement which is common in the Tyrol—that each amateur ascensionist should be accompanied by only one guide—were for technical reasons universal. Then the bargain between travellers, on the one hand, and guides, on the other, would not in general be perfectly determinate. It would still indeed be true that “an arrangement according to which the remuneration for ascending the easy and the difficult mountains was the same could not stand.” But it would no longer be true that the remuneration for the easy mountain—or, rather, for the average mountain, from which the fares both of the easier and the more difficult ascents might be measured—would be in general determinate.<sup>2</sup> There would in general exist no force of competition by which any particular arrangement (as to the average mountain) initiated by custom and accident could be disturbed. That is, still supposing the service of a guide or porter to be sold as a whole. For, if the labor of the assistants can be sold by the hour, or other sort of differential dose, the phenomenon

<sup>1</sup> *Economic Journal*, vol. iv. p. 225.

<sup>2</sup> As argued in *Mathematical Psychics*, p. 42.

of determinate equilibrium will reappear. There seems no reason to think that the case of indeterminate equilibrium which has been illustrated is other than exceptional in the actual labor market, even where the bargain appears to be made for totals as distinguished from doses of labor,—situations rather than tasks. For there is, in fact, such a variety of situations attended with different amounts of work<sup>1</sup> as probably in practice to realize that divisibility of the thing supplied—here labor—which, together with the divisibility of the thing demanded,—here money,—constitutes a condition of a perfect market with determinate equilibrium.<sup>2</sup> Still, the point of theory is worth notice. Perhaps the friction in the labor market would be less if labor were sold freely by the hour (or other small “dose”).

It ought to be mentioned that a different view of Exchange has been taken by a high authority on Distribution. Professor Böhm-Bawerk presents as the general type of a market that very case which is here regarded as exceptional. On one side of the markets are put dealers each with a horse—or it may be a batch of several horses<sup>3</sup>—which he will not sell under a certain price, on the other side buyers each of which will not go beyond a certain

<sup>1</sup> Cp. Marshall, *Principles of Economics*, Book VI. chap. ii. § 2, note, p. 559, 4th edition. Consider the case of managers, above, p. 180.

<sup>2</sup> *Mathematical Psychics*, p. 18.

<sup>3</sup> In the criticism of the *Positive Theory of Capital*, at p. 333 of the *Economic Journal*, vol. II., repeated from the Address to the British Association, Section F, 1889 (reprinted in the *Journal of the Statistical Society*, December, 1889), it was too leniently suggested that the author, in a subsequent note (p. 214, Smart's translation of *Positive Theory*), brought in the essential circumstance which his main illustration omits; namely, doses with varying marginal utility. It would rather seem, however, that the stud of horses permitted in the said note does not differ essentially from the single horse of the main illustration. It seems to be treated as a mass of commodity which the seller offers, the buyer takes or leaves, as a whole. At any rate, the writer has failed to see the significance of divisibility in the commodity. For, otherwise, he would not have attributed so much “latitude” (*loc. cit.* quoted in the text) to the case in which the sellers (and likewise the buyers) do not differ from each other in their subjective valuation of a horse.

price. The following scheme is given as an example of such data:<sup>1</sup>—

<i>Buyers.</i>					<i>Sellers.</i>				
$A_1$ values a horse at . . . £30 (and will buy at any price under).					$B_1$ values a horse at . . £10 (and will sell at any price over).				
$A_2$	"	"	"	"	28	$B_2$	"	"	"
$A_3$	"	"	"	"	26	$B_3$	"	"	"
$A_4$	"	"	"	"	24	$B_4$	"	"	"
$A_5$	"	"	"	"	22	$B_5$	"	"	"
$A_6$	"	"	"	"	21	$B_6$	"	"	"
$A_7$	"	"	"	"	20	$B_7$	"	"	"
$A_8$	"	"	"	"	18	$B_8$	"	"	"
$A_9$	"	"	"	"	17				
$A_{10}$	"	"	"	"	15				

From these data it is deduced that the price of a horse must be between £21 and £21 10s. But, if the data had been different, the price might not have been thus determinate. "If there are, for instance, ten buyers who each value the commodity at £10, and ten sellers who each value it subjectively at £1, obviously all the ten pair can come to terms, and the zone which lies between the valuation of the last buyer and the last seller represents the wide latitude between £1 and £10." Of this character, according to the writer, are the circumstances of the labor market.<sup>2</sup> In such a case some further datum is required to determine price. "That this latitude should be narrowed down, the further circumstance must be present that the desire of the buyers is directed to an unlimited number of goods, while at the same time the total amount of means of purchase must be strictly limited, and the buyers must be determined to spend the whole of this sum in purchase of the commodities in question."<sup>3</sup> This condition is ful-

<sup>1</sup> *Positive Theory of Capital* (translated), Book IV. chap. iv.

<sup>2</sup> *Op. cit.*, Book IV. chap. v. p. 217; Book VI. chap. v. ("On the General Subsistence Market").

<sup>3</sup> *Loc. cit.*

filled, according to Professor Böhm-Bawerk, by the "general subsistence market."

This example will hardly be accepted as typical of a market by the mathematical economists who walk in the way of Gossen. Agreeing with the Austrian leader that value rests at bottom on subjective estimates, they will accept his scheme, just as they would accept the description of a common auction, as illustrative of that attribute. But they may complain that the illustration does not illustrate another attribute which they regard as essential to the determination of value in a market,—the circumstance that each party on the one side is free, in concert with some party or parties on the other side, to vary the amounts of those quantities on which depends his advantage—the *quid* and the *pro quo*—up to a limiting point, or *margin* at which he estimates his advantage to be a maximum. The ““marginal pair” of the Austrian scheme hardly exemplifies the *law of marginal utility*. We require to know, not so much the least price which each horse dealer will take for his horse or stud,<sup>1</sup> but how much horseflesh each individual, or at least all collectively, will offer at each of several prices, with similarly graduated data for the would-be buyers. Granted data of this sort, the mathematical economist need not trouble himself much about a matter which is vital according to the Austrian scheme,—whether the “subjective valuation” of a horse is the same (or very similar) for all the sellers, while the dispositions of the buyers are likewise identical. The case of like dispositions does not constitute a special variety of the problem, one which is insoluble without additional data. Far from being anomalous, that case may be normally assumed as a harmless and convenient simplification, very proper to an introductory statement of the general theory.<sup>2</sup>

<sup>1</sup> See note at p. 189.

<sup>2</sup> It is so assumed in *Mathematical Psychics*.

"*Nec Deus intersit, nisi dignus vindice nodus Inciderit*"—

The case of like dispositions does not present any peculiar difficulty calling for so very mechanical a *Deus ex machina* as the hypothesis that "the total amount of means of purchase must be strictly limited and the buyers must be determined to spend the whole of this sum in purchase of the commodities in question." It is riding a one-horse illustration to death to put the accidents of an exceptional sort of auction as representative of the actual transactions by which the great mass of national income is distributed.

This criticism, it must be freely admitted, involves an issue about which legitimate differences of opinion may exist,—what is the most appropriate conception of the process by which value is determined through the higgling of the market? Any simple conception must involve a considerable element of hypothesis, not admitting of decisive proof. The hypothetical character of the inquiry will appear if we look back to that model labor market in which guides or porters were supposed to be hired by amateur mountaineers. It was tacitly assumed that each party has certain dispositions as to the amount of money that he is willing to give or take in exchange for a certain amount of work,—a scale of subjective estimates<sup>1</sup> which is supposed to be formed before the parties come into communication, and not to be modified by the chaffering of the market. The constancy of these dispositions being assumed, it is presumed that somehow a state of equilibrium will be brought about, such that the party on one side cannot improve his position by entering into new contracts with some party or parties on the other side. The better opinion is that only the position of equilibrium is

<sup>1</sup> Whether expressed by a demand-curve (or schedule, cf. Marshall, *Principles*, Book III.) or by way of indifference curves, as Professor Pareto has suggested (*Giornale degli Economisti*, 1900).

knowable, not the path by which equilibrium is reached. As Jevons says, "It is a far more easy task to lay down the conditions under which trade is completed and interchange ceases than to attempt to ascertain at what rate trade will go on when equilibrium is not attained."<sup>1</sup> Particular paths may be indicated by way of illustration, "to fix the ideas," as mathematicians say.<sup>2</sup>

In this spirit two kinds of higgling may be distinguished as appropriate respectively to short and long periods. *First*, we may suppose the intending buyers and sellers to remain in communication without actually making exchanges, each trying to get at the dispositions of the others, and estimating his chances of making a better bargain than one that has been provisionally contemplated. By this preliminary tentative process a system of bargains complying with the condition of equilibrium is, as it were, rehearsed before it is actually performed. *Or, second*, one may suppose a performance to take place before such rehearsal is completed. On the first day in our example a set of hirings are made which prove not to be in accordance with the dispositions of the parties. These contracts terminating with the day, the parties encounter each other the following day,<sup>3</sup> with dispositions the same as on the first day,—like combatants *armis animisque refecti*,<sup>4</sup>—in all respects as they were at the beginning of the first encounter, except that they have obtained by experience the knowledge that the system of bargains entered into on the first occasion does not fit the real dispositions of

<sup>1</sup> *Theory*, 2d edition, p. 101-2. The context seems to impose an unnecessary limitation: "Holders of commodities will be regarded not as continuously passing on these commodities in streams of trade, but as possessing certain fixed amounts which they exchange until they come to equilibrium." The "fixed amount" may be considered as renewed from time to time for each of the individuals placed along a "stream of trade" (see below, p. 197).

<sup>2</sup> This view of the subject is presented at greater length in an article in the *Revue d'Économie Politique*, January, 1891.

<sup>3</sup> They recontract, in the phraseology of *Mathematical Psychics*.

<sup>4</sup> *Aeneid*, xii. 788.

the parties. The second plan of higgling was supposed in the example,<sup>1</sup>—the plan which is more appropriate to "normal" value.

Contemplating the theory of exchange in the abstract, we may exclaim with Burke, "Nobody, I believe, has observed with any reflection what market is without being astonished at the truth, the correctness, the celerity, the general equity, with which the balance of wants is settled."<sup>2</sup> But, when we come to the labor market, or any particular market, we must carefully inquire with what degree of approximateness the above-stated fundamental postulate<sup>3</sup> holds good. When the bargaining extends over a considerable time, changes are apt to occur in the dispositions of the parties, whether independently of each other and sporadically, or in a manner even more fatal to the theory, by way of imitation.<sup>4</sup> Also, where there occurs a series of encounters between buyers and sellers, the results of the earlier encounter may affect the dispositions with which the later ones are entered on. The terms which the laborer is ready to offer and accept are altered by the alteration in his habits and efficiency which is the consequence of previous bad bargains.<sup>5</sup>

The peculiarities of the labor market pointed out by Professor Marshall go far to modify the general presumption in favor of *laissez faire*. But less careful writers are less successful in supporting the burden of proof which lies on those who profess to add to or take away from that outlined theory of Exchange which seems to express all

<sup>1</sup>Above, p. 188.

<sup>2</sup>*Thought and Details on Scarcity*. He is speaking with special reference to the labor market.

<sup>3</sup>Above, p. 192.

<sup>4</sup>See Pigon on "Utility" in the *Economic Journal* for March, 1901. Compare, as to the absence of predeterminateness in the dispositions of parties to the labor market, Walker, *Political Economy*, Art. 320.

<sup>5</sup>Cp. Marshall, *Principles of Economics*, Book VI. chap. iv., and Walker, *Political Economy*, Art. 308 *et seq.*

that is known *in general* about the working of a market. A warning example of such modification not warranted by specific experience is the doctrine of the wage-fund, which is now universally discredited, and ought always to have excited suspicion and challenged proof because, as already intimated in another connection, it is a supposition repugnant to the general theory of Exchange that "the total amount of means of purchase must be strictly limited, and the buyers must be determined to spend the whole of this sum in purchase of the commodities in question."<sup>1</sup> Perhaps, as Sir Leslie Stephen says with reference to the classical writers, "the assumption slipped into their reasoning unawares."<sup>2</sup> Sometimes it may have been intended only to convey that early lesson which is contained in our opening paragraphs,—that no party to production can expect to earn more than the total produce. Sometimes there was contemplated a more definite statement true of short periods,—a truth which has been well stated by Professor Taussig in his article on "The Employer's Place in Distribution," and at greater length in his book on *Wages and Capital* :—

"The whole of the real income available for the community is not in any substantial sense at the disposal of the capitalists. . . . A large part of the commodities now on hand would not serve their turn. The supply of bread and flour and grain at any moment is adjusted to the expected needs of the whole mass of consumers. . . . The effective choice which the capitalists would have . . . would be thus confined, for the time being at least, within limits not very elastic."<sup>3</sup>

Let us suppose that the working classes live on bread only, while the capitalist classes consume buns also.

<sup>1</sup> Quoted from Böhm-Bawerk (above, p. 192), who himself compares his theory with that of the wage-fund (*Positive Theory*, p. 419). Both theories seem true of short periods. The context accords with the view here taken of the theory, as true of short periods, inadequate to long periods.

<sup>2</sup> *The English Utilitarians*, vol. iii. p. 216.

<sup>3</sup> *Quarterly Journal of Economics*, vol. x. p. 74.

On a day, after a conference between employers and employed, the partition of the national dividend is altered in favor of the capitalists. Yet they will be unable to benefit immediately by the change. On that day more buns will not be forthcoming, all the bakers' ovens being pre-occupied with bread.

For the purpose of illustration there has been chosen a specially simple case in which the articles consumed by the two classes are formed out of the same material, and by a process which is identical up to the penultimate stage. The stream of production does not bifurcate till it debouches into the mouths of the two parties to Distribution.

When we consider longer tracts of that stream, there comes into view a circumstance to be discussed under the head of *Capital*, the influence of time on value. To illustrate the distribution of produce between those who have contributed at different times to its production, let us at first make abstraction of other differences, and imagine economic men uniting the functions of workman and capitalist-entrepreneur, differing only in the amount of capitalization, the length of time during which their labor is invested. One labors at proximate means, another at remote means, tending to the ultimate product out of which all the producers are remunerated. An idea of a train of production formed by successive operations directed to an ultimate product may be obtained by watching any factory. Here you have the raw cotton-wool put in, there you see a "sliver" of carded cotton flowing from one machine *en route* to another, until at the last stage there comes out the finished article. To illustrate the process of distribution, we must now conceive a backward flow of the ultimate product to the several producers. We might imagine each one's share to be conveyed to him by some

contrivance like those wondrous little vehicles in the Boston Public Library, which, as if gifted with human intelligence, find their way about the building to the particular place where each book belongs. To illustrate the effect of distance in time on distribution, we must further modify the model presented by an ordinary factory. We must suppose the interval of time between the processes to be greatly magnified, months being substituted for minutes. Then there will come into view the circumstance to which attention is particularly directed,—that a larger share will be conveyed to each producer (other things being equal), the greater his distance from the final stage. There will thus be a continual flow of materials in process of manufacture onwards and of products ready for consumption backwards, if the work at each stage is steadily maintained,—provided that there is a continual stream of raw material, and that the machines are continually renewed.<sup>1</sup> Considering the continuous round of production and consumption, we realize the important truth which Mill has thus expressed:—

"The miller, the reaper, the ploughman, the plough-maker, the wagoner and wagon-maker, and the sailor and ship-builder, when employed, derive their remuneration from the ultimate product,—the bread made from the corn on which they have severally operated or supplied the instruments for operating."<sup>2</sup>

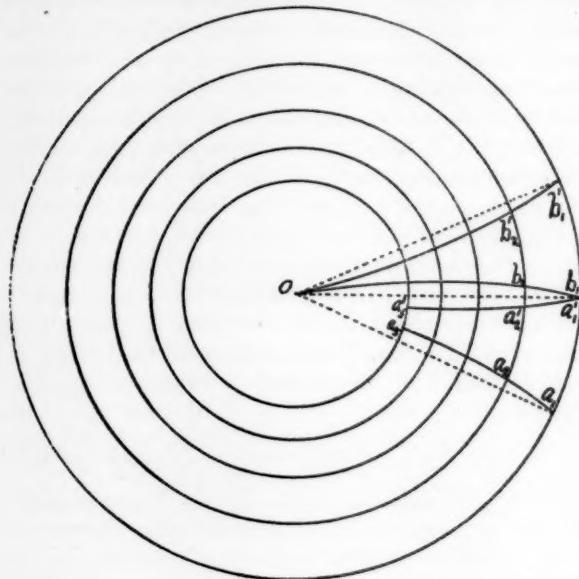
To represent the continual expansion of value as the present ripens into the future, a series of concentric circles has been happily employed by Professor Böhm-Bawerk.<sup>3</sup> Varying his illustration, let us suppose the circles to be drawn on ground which rises uniformly from the outmost circle towards the centre O in the accompanying diagram at which the apex tapers to a needle-point.<sup>4</sup> The circles are

<sup>1</sup> *Cp.*, p. 201, below.      <sup>2</sup> *Political Economy*, Book I. chap. ii. §§ 1, 2.

<sup>3</sup> *Positive Theory*, Book II. chap. v.

<sup>4</sup> The series of highering circles is not shown in the diagram after the fifth circle.

drawn at equal distances as measured on the surface, and therefore, in a bird's-eye view which the diagram is intended to represent, become huddled together in the neighborhood of the central height. Across the circles, down the hill, flow streams with uniform velocity, so as to pass



from circle to circle in a unit of time. The breadth of a stream increases with its length,—not in direct proportion to the length, but according to the law of *accumulated price*.<sup>1</sup> The volume of the stream is proportioned to its breadth and to its depth (not shown on the figure). The stream takes its rise at some position on the channel (e.g., at  $a, a'$ ), the flow per unit of time at that point being proportioned to the energy put forth in pumping from a

<sup>1</sup> Marshall, as cited above, p. 167.

certain source. As the volume thus originated rolls down the channel, it continually increases by infiltration from the neighboring soil without any additional pumping, so that, the depth being preserved constant, the volume is proportioned to the increasing breadth.<sup>1</sup> Besides this increase due to its defluxion, the volume may also in the course of its downward flow be increased by additional pumping from a second source (e.g.,  $a_s a'_s$ ). This second increase corresponds to an increase in depth (not shown in the figure); and this second contribution is augmented, like the first, by the infiltration which attends defluxion. There may be as many sources as there are circles cut by the descending stream. But there need not be a source at each interval. The equidistant circles correspond to successive lines, not always coincident with successive stages of production at each of which additional labor is applied.<sup>2</sup> The train of production thus represented terminates in a product ready for consumption—it may be loaves or ribbons, wine or shoes—on the shore of a circumfluent sea of commodities. As in the natural world rivers are replenished by the melting of the snow, which is formed on mountains by the congelation of vapor, which is wafted up from the ocean, into which the rivers flow down, so in the *, by a compensation carried into*

<sup>1</sup>The broadening of the stream corresponds to the two consilient facts, that future pleasures are discounted and that production is increased by "roundabout" methods. As to the first of these facts, see in Marshall's *Principles of Economics* the passages which relate to *discounting future pleasures*, and the remarks on those passages in the review of the second edition of the *Principles* in the *Economic Journal*, vol. I. (1891) p. 613. See also the admirably clear explanation and illustration given by Professor Carver in his article on "Abstinence and the Theory of Interest," *Quarterly Journal of Economics*, vol. viii. (1883) p. 48. As to both the first and second facts, see Böhm-Bawerk's well-known expositions. But as to the consilience of the two facts see, rather, Professor Marshall on the "fundamental symmetry" between the action of Supply and Demand (noticed in the review referred to). See also Professor Carver's explanation of the double statement that interest is payment for the sacrifice of abstinence, and that interest is paid because capital is productive (*loc. cit.*, p. 43).

<sup>2</sup>Corresponding to the machines in the illustration given in the preceding paragraphs.

more just detail, labor is restored and re-created by a refreshing rain of commodities derived from that sea into which all finished commodities are discharged. Volatile shoes and wine, and other commodities in due admixture up to a certain value, find their way to each point upon the heights from which a source has been tapped, the volume of this return corresponding to the volume of the original contribution,—not indeed the same, but the same increased by a factor of accumulation, the ratio which the breadth of the stream at the littoral bears to its breadth at the point of origin (e.g.,  $a_1a'_1 : a_5a'_5$ ). The flight of the commodities from the littoral to the heights need not be supposed to occupy an appreciable time.<sup>1</sup>

The idea of a Flow which has been illustrated is primarily applicable to the case in which materials and consumable commodities are used up once for all within a unit of time. But the case of labor invested for longer periods is easily assimilated. Suppose that a plough lasts five years, and that in each year of its existence it makes an equal addition to the consumable crop, the year being taken as the unit of time. Then, although the plough may have been made in a week or month, the labor of its production is to be considered as invested in five unequal portions at unequal distances in time from the epoch at which the invested labor meets with its return. The total labor of making the plough may be considered as applied at five positions ( $a'_1a_1, a'_2a_2, \dots, a'_5a_5$ ) in five contributions, respectively proportioned to the breadth of the stream at these points. If labor is invested in the production of a machine, imagined by economists, which lasts forever,<sup>2</sup> or, what comes to the same, an improvement, such as the

<sup>1</sup> In accordance with the truth that finished goods kept in stock are of the nature of capital, for the "investment" (cp. Jevons, *Theory*) of which the retail dealer will normally seek compensation in the price paid by the consumer. It would be convenient in this connection to be able to use the French terms *restauration* and *consumation*.

<sup>2</sup> Mill, *Political Economy*, Book I. chap. vi. § 2.

draining of land or opening a mine, or cutting an isthmus, which is calculated to yield a constant income for an indefinitely long series of years, then the series of positions along the stream at which the labor is supposed to be invested must be carried back indefinitely (see the channel of which the mouth is  $b, b'$ ,) up to that needle-point whose tapering dimensions correspond to the perspective of an indefinitely distant future.

Eternal machines are not very common; but the conception may serve to illustrate a species of tool or implement of which the race remains immortal, though the individual is worn out and perishes. Of this kind are implements which are directed not only to produce goods immediately ready for consumption or implements of a kind different from their own, but also to reproduce their own kind. Hammers and axes are presumably of this kind in a primitive society; in an advanced state of industry, some more complicated engines.<sup>1</sup> Such machines may be compared to horses, if used not only as beasts of burden, but also as stallions. The demand for such creatures is presumably influenced by the expected series of future generations, so far as commercial prospective-ness may extend. In the stationary state of steady motion, here provisionally contemplated, reproductive machines would be illustrated by beasts of burden of which the breed does not sensibly improve in successive generations.

Two channels only have been represented in the diagram, one of finite, the other of infinite length, with breadth exaggerated for the sake of clearness. Properly, there should be as many channels as there are categories of articles ready for immediate consumption,—“goods of the first order,” as the Austrians say; and the breadth should be

<sup>1</sup>Or rather a certain system of machinery. Cp. Marx on machines produced by machinery, *Capital*, ch. xv.

such as to allow of the corresponding number of sectors being fitted into the circle. Another circumstance which must be left to the imagination is the introduction of one and the same article into several streams of production at different distances from the final stage. Coal, for instance, so far as it is used for warming dwelling-houses, is a good of the first order; so far as it is used to drive machines,—themselves perhaps used only to produce other machines,—coal is to be placed among the higher orders.

The distinction which has been drawn between work which is applied in the neighborhood of and at a distance from the final stage of production is not coincident with the distinction between the saving and the non-saving classes. The shower of commodities apportioned to each spot according to its height above the littoral as well as to the volume of value which there took its rise, is not "like the gentle rain from heaven." It does not drop impartially on all who have been concerned with the work of eliciting the stream. Those who have done the common labor of pumping—the drawers of water—fare no better than if that work had been done at the littoral. In fact, it is proper to conceive that it was done at the littoral. As the energy generated at the Falls of Niagara is transmitted for use to a point higher up on the river, so on the stream of production the work of pumping is mostly done at the littoral, though it is applied at the heights. For instance, on the first stream an amount of work proportioned to  $a, a'$ , might be done at the littoral, and be paid for in commodities at the rate current on the littoral; that is, without the augmentation of value which is due to defluxion. The remainder of the volume of value which is discharged per limit of time—that is,  $a, a'$ , minus  $a, a'$ ,—flies off to those who occupy the height represented by  $a, a'$ .

If now it is asked where *rent* comes into this representation of distribution, the answer is to be found in the theory

(above, p. 184) that from the point of view of the entrepreneur the use of land appears in the same light as the use of laborers,—as a factor of production. The idea of a steady cyclic flow which we are striving to win becomes not much more complicated when we imagine that those who, placed on the heights, preside over the origination of productive streams, obtain the material that is to form the current, the precious fluid which it is their office to start upon its downward flow, not solely from a pumping proletariat, but also from the fortunate owners of springs which gush spontaneously. There is, indeed, this difference between the laborer and the land-owner: that, whereas the former (even in the present age and still more when the classical economists flourished) has to spend a great proportion of his daily wage upon his daily necessities, and therefore in respect of the bulk of his income *must* be placed at the littoral line, the latter *may* save a great part of his income, when it is greatly in excess of his daily necessities, and in particular, with respect to that great portion, may defer fruition until the stream shall have flowed down from the point at which his contribution is applied to the point at which production becomes merged in consummation. Another difference between land and labor in their relation to capital and enterprise arises from the circumstance that, unlike the laborer (in a free country), land itself, as well as its use, is sold. Whence arises a well-known correspondence between rent and interest in their relation to the capital value of land. This similarity will not be mistaken for identity<sup>1</sup> by those who find the essential attribute of rent in the *limitation* of the objects for which rent is paid.<sup>2</sup>

<sup>1</sup>"The attempt of certain writers to refine away this traditional distinction between land and capital, rent and interest, impresses me as a subtle obscuration of plain facts," well remarked one of the speakers at the recent banquet of the Massachusetts Single Tax League (1902).

<sup>2</sup>Cp. above, p. 183, Marshall, *Principles*, *sub voce* "Rent."

To complete the analysis of the parties to Distribution, it may next be required to distinguish the capitalist from the entrepreneur. They are both easily distinguished from the salaried manager in that he is at the littoral, in that respect like the common workman, while they are both above that line. But to draw a line in the series of shades which intervene between the employer of Walker's type and the mere shareholder, to determine at what point the capitalist ends and the entrepreneur begins, appears to defy analysis. As Thought and Emotion are inseparably blended, though one may so far preponderate as to give its name to the state of consciousness at any time, such is the inseparable connection, such the intelligible but not exactly definable distinction, between Enterprise and Saving. The indefiniteness of the relation is illustrated by the shifting use in economic literature of the term Profit.<sup>1</sup>

That profit other than remuneration for managerial work should be transmitted to those who occupy a position on the heights—often the easy position of a dormant shareholder—is certainly invidious and difficult to justify to those who toil below. Yet it may be reflected that the condition of those below would have been worse if those above, or those from whom they purchased or inherited their position, had not been content to wait for future goods instead of grasping at immediate pleasure. The Flow so beneficial to all classes would never have been set up without abstinence.<sup>2</sup> It could not continue in its

<sup>1</sup> As instructively pointed out by Mr. L. L. Price in his article on "Profit-sharing" published in the *Economic Journal*, vol. ii. (1892), and in his *Economic Science and Practice*, p. 75 and *ante*.

<sup>2</sup> Compare Adam Smith. "By what a frugal man annually saves he not only affords maintenance for an additional number of productive hands for that or the ensuing year, but, like the founder of a workhouse, he establishes, as it were, a perpetual fund for the maintenance of an equal number in all times to come." *Wealth of Nations*, Book II. chap. iii. In our metaphor, taking up a new position on the heights corresponds to this establishment of a perpetual fund.

present magnitude but for the continued abstinence of each one who has a right to dispose of wealth which is in course of production,—make a bonfire of it, if he can get a momentary pleasure from that extravagance, or by some less simple, though more familiar, increase of unproductive consumption "eat up his capital."

The consequences of an increase in unproductive consumption may be contemplated by reversing the consequences of an increase in parsimony. The latter increase forms part of a larger subject, economic progress. The progressive change in the volume of value and channels of production cannot be understood until there has been attained what was the object of the preceding paragraphs,—the clear idea of a steady flow in channels for a time unchanged.<sup>1</sup> The study of this stationary state is perhaps the part of economic science which principally deserves to be described as theory of Distribution. In these pages it is not attempted to go far beyond the comparatively narrow round of steady motion in fixed cycles of production and consumption. It must suffice to indicate three species of progressive alteration in the economic mechanism. There is, *first*, a uniform increase in the number of both capitalists and laborers, or, more generally, capital and labor, other things being the same. This change presents no difficulty: it may be represented by an increase in the *depth* of all the channels. *Second*, the rate at which the breadth of the channels diminishes as one ascends from the littoral—in other words, the rate of interest—might be diminished. A limiting case of this species is put by Mill when he supposes unproductive expenditure of capitalists to be "reduced to its lowest limit." Conceivably, this change might have no other effect than to reduce the portions accruing to the capitalists—such as

<sup>1</sup>On the nature of the steady flow with which we are concerned see Marshall, *Economic Journal*, vol. viii. p. 40, and *Principles of Economics* *sub voce* "Stationary State."

$a_a'$ — $a_a'$ —to a minimum. The capitalists with new eagerness bid against each other for the service of the laborers; but, if the latter do not give more work for higher pay, the consequences might be a new equilibrium in which the same volume of value is steadily rolled down the same channels of trade, though the portion which flies back to the heights is a minimum. But, even if the quantity of value continued constant, it is hardly to be supposed that the quality<sup>1</sup> of the commodities which make up the amount would remain unchanged. And, in fact, an increase of wages would probably be followed by an increase in the number and efficiency of the wage-earning classes.<sup>2</sup> And these results would favor the occurrence of a *third* kind of progress which may, however, be considered as arising independently of the others; namely, the lengthening of the trains of production.<sup>3</sup> It may be doubted whether any great lengthening of the trains is possible without a concomitant improvement in the arts of production; yet, as Sidgwick observes,<sup>4</sup> invention is not necessarily followed by increase of capitalization.<sup>5</sup>

The third head of progress even more surely than the second will be attended with changes in the channels of production. As already observed<sup>6</sup> with reference to the portion of truth contained in the wage-fund theory, time will in general be required for the carrying out of such changes. The means of production which are rolling

<sup>1</sup> Cp. Mill, *loc. cit.*—"there would no longer be any demand for luxuries on the part of capitalists."

<sup>2</sup> Cp. Marshall, *Principles*, Book IV. ch. xiii.

<sup>3</sup> It is possible, as Mill shows, *Political Economy*, Book I. chap. vi. § 2 (cp. Ricardo on machinery and Mr. Pierson, *Principles of Economics*, p. 311) that lengthening the period of investment, and also invention, while it increases the amount of goods accruing to the capitalist, may diminish the amount accruing to the workers. What Mill says in this connection of the "fresh creation" of capital and "additional saving consequent on improvements" is made more intelligible by the use of the illustration here offered.

<sup>4</sup> *Political Economy*, Book I. chap. iv. § 2.

<sup>5</sup> *Loc. cit.* Mill treats capital and arts of production as independent variables. *Political Economy*, Book IV. chap. iii.

<sup>6</sup> Above, p. 195.

down the channels at the instant when the change begins must all or in great part be suffered to run out: otherwise there will probably be a considerable waste of labor, and interruption to consumption. One delicate adjustment which would be deranged can only be alluded to here,—the monetary circulation, especially that form of it which consists of debts that are continually "cleared," or cancelled. We might imagine the flow of factors in the channels of production and the flight of finished products backward on the way to consumption to be attended each with a displacement of air in a direction opposite to the main movement,—light counter-currents which have their use in facilitating the movements of solid wealth, and in the fulfilment of their useful function continually meet and neutralize each other. But, evidently, we have reached the degree of complexity at which the illustration becomes more difficult to understand than the thing which is to be illustrated. For a more concrete embodiment of a more complete theory the student is referred to the *Principles of Economics*,—a reference of which the value is, if possible, enhanced by the solid work which Mr. N. G. Pierson has published under the same title.<sup>1</sup>

The preceding hints and metaphors and warnings may assist the student to obtain a general idea of the process by which distribution of the national income is effected. An outline of theory so abstract is not to be despised as useless. It satisfies a legitimate curiosity. It is part of a liberal education. It is comparable in these respects with an elementary knowledge of astronomy. Such knowledge will not be of much use in navigation. And yet it has a certain bearing on real life. The diffusion of just notions about astronomy has rendered it impossible for astrologers any longer to practise on the credulity of mankind.

<sup>1</sup> Translated into English from the Dutch by Wotzel.

A knowledge of first principles affords a test by which the authority of those who offer themselves as guides may be estimated. A little science has a further use: it is of assistance in obtaining more.

As the astronomer will proceed from a first approximation to a second, so economists should soften the hard outline of abstract theory by a regard to particular circumstances. As he in dealing with a new object will make certain of his first approximation,—will consider, for example, whether an ellipse or a parabola fits better to the orbit of a new comet,—so it behooves us to consider whether the classical hypothesis presupposed in the preceding page<sup>1</sup>—two-sided competition<sup>2</sup>—is appropriate to the conditions of modern industry. The hypothesis of two-sided monopoly<sup>3</sup> is strongly suggested by what we see before us,—consolidated capital confronted by consolidated trade-unions. But it is alleged that beneath that appearance the forces of competition are effectively at work; that the settlement which is apt to be, and ought to be, agreed to between a combination of Capital and a combination of Labor is no other than that which would have been determined by competition if the individuals now combined had been free to act competitively. No one has expressed this view with more authority and decision than Walker:—

"Competition, perfect competition, affords the ideal condition for the distribution of wealth."<sup>4</sup>

"Competition affords the only absolute security possible for the equitable and beneficial distribution of the products of industry."<sup>5</sup>

To the same effect, Professor Clark, when he teaches that

"The question whether the laborer is exploited and robbed depends on the question whether he gets his product."<sup>6</sup>

<sup>1</sup> See the opening paragraph, pp. 159-160.

<sup>2</sup> The useful phrases of Dr. Böhm-Bawerk.

<sup>3</sup> *Political Economy*, par. 466.      <sup>4</sup> *Ibid.*, par. 467.    *Cp.* par. 343 *et seq.*

<sup>5</sup> *The Distribution of Wealth*, chap. i.

What is meant by getting his product appears from the following passages:—

"What we are able to produce by means of labor is determined by what a final unit of mere labor can add to the product that can be created without its aid."<sup>1</sup>

"If each productive function is paid for according to the amount of its product [thus reckoned], then each man gets what he himself produces."

The ideal of just arbitration is that

"men should get something approximating the part of that joint product which they may fairly regard as solely the fruit of their own labor.<sup>2</sup> The basis of the claim that a workman makes is that his presence in a mill causes a certain increase in the output of it."<sup>3</sup>

If these views are generally accepted, the analysis of bargains in a régime of competition will retain its importance. But it may well be doubted whether these views will be generally accepted, even by the thoughtful few, much less by the more numerous of the concerned parties. First, it may be objected that the same principle will give very different results according to the relative numbers of the parties. Put a case which has actually existed, or at least may be well supposed to have existed, in order to test the general application of the principle,—the case in which the number of the employees is not much greater than, say not more than twice as great as, the number of the employers. In such a case, if labor is sold by the hour,—openly, or virtually in a fashion that probably prevails at present,<sup>4</sup>—there would be a determinate equi-

<sup>1</sup> *The Distribution of Wealth*, p. 180.

<sup>2</sup> "Authoritative Arbitration," *Political Science Quarterly*, December, 1892, p. 559.

<sup>3</sup> *Ibid.*, p. 559.

<sup>4</sup> See Marshall, *Principles of Economics*, Book VI. chap. ii. § 2, note to p. 469, 4th edition, referred to above.

librium of the labor market such that each laborer would earn an amount equal to the number of hours worked, multiplied by the final productivity of each hour. That arrangement might appear just, on a certain interpretation of the dictum that one's product "is determined by what a final unit of mere labor can add to the product." But the arrangement would not be just if "the basis of the claim that a workman makes is that his presence in the mill will cause a certain increase in the output of it." All turns on the unit employed. If it is allowable to take the hour as the unit, and find the wage of the individual man by multiplying the number of hours worked by the final productivity of the unit, why should it not be allowable to take a *gang* of men as the unit, and find the wage of the individual man by dividing the number of men in a gang into the final productivity of a gang? Not to rest the argument on supposed cases, take the case of the "capitalist" as he existed in Ricardo's time, or even the modern entrepreneur who is not a salaried manager. If such a one is to be paid on the basis that "his presence in a mill causes a certain increase in the output of it," it is quite possible that he would be justified in claiming a much larger share of the joint product than he now obtains.<sup>1</sup> The assertion that the entrepreneur receives just as much as he adds to product is at best an empirical law,<sup>2</sup> not possessing the sort of universality proper to a general canon of distributive justice. Thus the coincidence of perfect competition with ideal justice is by no means evident to the impartial spectator: much less is it likely

<sup>1</sup> The attribution of a portion of the product to a unit of productive factor is only significant when the unit can be treated as a final increment. Cf. Marshall, *Principles of Economics*, note to p. 465, 4th edition. When this condition is not fulfilled,—e.g., Professor Clark's *Distribution of Wealth*, p. 326, where "the amount that is attributable to one-half of the capital" ("the capital that is used in the industry") is specified,—this doctrine of attribution becomes perilously like the Austrian doctrine of "imputation," as to which see *Economic Journal*, vol. iv. p. 281.

<sup>2</sup> As argued above, p. 181.

to be accepted by the majority of those concerned, whose views must be taken into account by those who would form a theory that has some relation to the facts. One who has closely observed popular movements in America testifies to "the growing belief that mechanical science and invention applied to industry are too closely held by private interests."<sup>1</sup> "An enormous private ownership of industrial mechanism, especially if coupled with lands and mines," forms the gravamen of the complaints. To advert for a moment to the accessory grievance with the view of understanding the main one, can we suppose that in a case such as Ireland was supposed to constitute before the Gladstonian land legislation, the land leaguers would have been content if they had obtained a perfect market in land, an equation of supply and demand undisturbed by hustling or delay, intimidation or cornering?<sup>2</sup> This perfection of the market might have served only to bring out the disadvantage at which the many were placed by the vesting of the complete ownership of land in the hands of a few. The prevailing sentiment about the "enormous private ownership of industrial mechanism" may well be similar. It is true that the expediencies governing "judicial rents" are very different from those which are opposed to the legal regulation of wages. But we are now considering how the matter appears to the many, what régime they can be got to accept. It seems not to be competition pure and simple.<sup>3</sup>

Are we, then, to abandon the guidance of competition, and follow a higher, an ethical, standard? Does the theory of distribution require a definition of distributive justice?

<sup>1</sup> Graham Brooks, *The Social Unrest*, p. 122.

<sup>2</sup> Such a market as is analyzed in *Mathematical Psychics*, p. 141.

<sup>3</sup> It is possible that competition purified in the manner suggested below might be accepted by moderate trade-unionists of the type of Applegarth and Dunning, as to whom see *History of Trade-unionism*, S. and B. Webb.

What is justice? The result of Plato's prolonged inquiry would not be satisfactory to the modern asserter of the rights of labor. If a new Socrates were to go about inquiring, what is the ideally just distribution between the employing and employed classes? he would probably find the wisest to be those who confessed their ignorance. As Jevons says, nothing at first sight can seem more reasonable and just than the "favorite saying that a man should have a fair day's wages for a fair day's work. . . . But, when you examine its meaning, you soon find that there is no real meaning at all. There is no way of deciding what is a fair day's wages."<sup>1</sup> It has been well observed that an intuition as to the just rate of wages, the laborer's share of the total product, involves an intuition as to the capitalist's share,—a share which depends on the rate of interest.<sup>2</sup> Can any one seriously pretend that the dictates of a moral sense are clear and decisive in such a matter?

Let it be remembered also that the path of justice is not only dark, but dangerous. Striving to secure the rights of labor, you are very likely to hurt the interests of labor. The action of trades-unions by lowering interest and harassing employers may result, as pointed out by Professor Marshall,<sup>3</sup> in checking the accumulation of capital and the supply of business power. The increase in personal capital may indeed compensate for this check, but also it may not. Greater efficiency does not follow higher wages as the night the day.<sup>4</sup>

In view of these considerations it is doubtful whether in the near future an influential majority will aim at setting aside competition. Moreover, even if this consummation were aimed at, it is not likely to be attained. So invinci-

<sup>1</sup> *Scientific Primer*, chapter on "Wages."

<sup>2</sup> Margaret Benson, *Capital, Labour, and Trade*, chap. xvi.

<sup>3</sup> *Elements of Economics of Industry*, (1892), Book VI, chap. xiii.

<sup>4</sup> See the careful statement of the relations by Mr. Pierson in his *Principles of Economics*.

ble in human nature is the "propensity to truck,"<sup>1</sup> so true is it that, "when one person is willing to sell a thing at a price which another is willing to pay for it, the two manage to come together in spite of prohibitions of King or Parliament, or of the officials of a Trust or Trades-union."<sup>2</sup> Competition is like the air we breathe, which it is not only dangerous, but difficult to exclude.

Between two guides, of which neither can be followed implicitly, let us walk warily. On the one hand, let us not aim at impossible ideals. But, on the other hand, let us not deserve the criticism which the advocates of trades-unionism have with too much truth directed against "the verdict of the economists" respecting trade-unions.<sup>3</sup> Let us not be as trenchant in act as we have been in thought. That is the moral of a story which was lately told in the newspapers. A gentleman who was under the necessity of using artificial teeth missed those useful adjuncts one morning after breakfast, and was seized with apprehension that he had swallowed them. He accordingly rushed off to an expert and had himself examined by the X-rays. The expert soon located the "matter in the wrong place," and proceeded to operate for its extraction. The operation had already made considerable progress when a relative of the patient rushed in, bringing the lost teeth, which had been found under the carpet. Here is no disparagement intended to the X-rays, that triumph of science. Let us by all means employ the  $x$  and  $y$  of mathematical economics, but let us be cautious in applying our abstract theory to flesh and blood.

To one seeking a representation at once clear and appropriate, the actual conditions of industry present the appearance of a viscous and deliquescent body,<sup>4</sup> not so easy

<sup>1</sup> Adam Smith, *Wealth of Nations*, Book I. chap. ii.

<sup>2</sup> Professor Marshall, *Quarterly Journal of Economics*, vol. xl. (1897) p. 129.

<sup>3</sup> Sidney and Beatrice Webb, *Industrial Democracy*, Part III. chap. i.

<sup>4</sup> Compare Professor J. B. Clark, *Philosophy of Wealth*: "The present

to be treated by simple formulæ as a perfect liquid or a perfect solid. An adequate theory of Distribution must in these days take some account of the action proper to combinations, effecting collective treaties between employers and employed: competition pure and simple no longer constitutes an adequate hypothesis. Exactly how these two principles are to be conceived as coexistent it is premature to state dogmatically: the economist whose aim is to "teach, not preach," to show what is or will be rather than what ought to be, may well hesitate to pronounce on this question. He can at best invent hypotheses which may facilitate the conception of a compromise between the opposed principles of competition and combination. For example, the required compromise might be attained if it were arranged that the agreement between employers and employed under some heads might be settled by collective treaty between combinations, but under other heads by competitive bargaining between individuals,—as the German students in their duels expose only certain parts, not all parts, of the body to the brunt of the combat.<sup>1</sup> To determine what matters should be the subject of treaty would indeed itself require some sort of treaty.<sup>2</sup> But it would be a kind of treaty for which there is good precedent in laws and institutions. For instance, there might grow up, or be enacted by law, the practice that the hours of labor in a trade should be a matter for collective treaty between a trade-union and a combination of employers, the particular number of hours to be settled by such treaty, while other terms, such as the rate of wages, should be settled by the play of competition.

So far as competition has free play, the received theory state of industrial society is transitional and chaotic. . . . The consolidation of labor is incomplete," that of capital also (p. 148 and context).

<sup>1</sup> Cf. Professor J. B. Clark, *op. cit.*, p. 208: "A spirit of Justice is ever standing over the contestants, and bidding them compete only thus and thus."

<sup>2</sup> "No individual competitor can lay down the rules of combat." Sidney Webb, *Contemporary Review* (1880), p. 500.

of supply and demand, even in its severest mathematical form, would be applicable. Indeed, the severer forms would be peculiarly appropriate in that they do not lend themselves to the contemplation of cornering and other dodges of the market, but assume the "true price"<sup>1</sup> to be worked out honestly. Presumably, the competition which all parties agreed to retain would have to be conducted in a similar spirit. The conditions of the duel, already prescribed, would be further limited by forbidding certain strokes.

A similar regulation may be suggested for the working of an imaginary sort of competition which seems to be contemplated by some who are conversant with the practical problems of industry. Their view appears to be<sup>2</sup> that two combinations might, without resorting to actual competition, agree to accept those terms which would probably result from the play of free competition. In playing this sort of *Kriegspiel*, it might be laid down as a rule of civilized industrial warfare that the workman should not be treated as living from hand to mouth. Suppose him freed from the imminence of starvation for a time at least, and then consider what sort of arrangement of the terms to be settled would constitute a steady flow of the type above described, in which each individual's final sacrifice is normally equivalent to the final utility which he procures thereby.<sup>3</sup> Other rules might be suggested for the working of such imaginary competition.<sup>4</sup>

<sup>1</sup>Condillac's phrase, appropriate to the ideal market above described.

<sup>2</sup>It is difficult to attach any other interpretation to Walker's dicta referred to above. He is presumably supposing that *all* the terms of contract are settled by ideal competition, a limiting case of the régime here suggested that *some* of the terms should be settled by competition, actual or imaginary.

<sup>3</sup>The "method of mutual insurance" practised by trade-unions, according to Mr. and Mrs. Webb (*Industrial Democracy*), seems to confer this sort of advantage on its members.

<sup>4</sup>E.g., in order to estimate that result, it might be thought consonant to the amount of industrial solidarity actually existing not to treat each indi-

But it may be questioned whether the method admits of precision, for a reason urged by Mr. L. L. Price with reference to a proposed principle of arbitration, "that the arbitrator should endeavor to award such wages as would be attained if combination on either side were absent." "Where is the arbitrator to discover this ideal standard?" pertinently asks Mr. Price.<sup>1</sup>

The terms forming the subject of a collective treaty would be settled by a method essentially different from competition. For instance, in the case above proposed, the length of a working day, let there be a law removing this article from the category of terms which are to be settled by the play of competition between individuals. Those who hold that such a law is based on the utilitarian first principle, the greatest happiness of those concerned,—here the citizens who have enacted the law,—will be prepared for the further suggestion that the particular number of hours to be settled will also be regulated by the utilitarian first principle, only that those concerned, whose maximum advantage constitutes the criterion, are not now the citizens,—if the citizens generally have no interest in the particular number of hours in the trade,—but only the parties to the distribution, the members of the contracting combination. That this undergrowth of utilitarianism may, like the parent tree, prove fruitful, has been argued elsewhere.<sup>2</sup> Here it need only be repeated that, when the

individual workman as an economic atom, but rather to suppose comparatively few independent bodies, each formed by the solidification of many individual atoms. Compare T. J. Dunning, *Trades-unions and Strikes* (a work mentioned by J. S. Mill with approval), p. 21, where reply is made to the question, "Why cannot a man sell his labor for what he likes, as a shopkeeper tickets his goods under the price of those of his neighbor?" "The shopkeepers," replies Dunning, "are not obliged to be always together." "But the matter assumes a very different aspect" in the case of wage-earners who work together. Though, as will presently appear, a preliminary use of the sort of potential competition which has just been described may be required.

<sup>1</sup> *Economic Science and Practice*, p. 198 and context.

<sup>2</sup> *Economic Journal*, vol. vii. p. 552, and *Mathematical Psychics*, p. 53.

utilitarian arrangement is defined as the basis of conciliation between self-interested parties to a contract, it is presupposed that both parties gain by the contract:<sup>1</sup> that it does not seem to either party to be their interest, rather than accept such an arrangement, to give up dealing at all with the other party,—seek, it may be, some third party, some other employment of their capital and labor,<sup>2</sup> or at least to defer agreement with the other party, in view of the probability that they will reduce their terms.<sup>3</sup>

The rationale of conciliation thus presented will doubtless not commend itself to many who accept substantially identical principles invested in a different form. Uniformity is not to be expected in the enunciation of first principles. The vital tenet is that each party must take account of and enter into the wants and motives of the other party. When competition is no longer umpire, the economist must abandon—if he ever maintained—the position

<sup>1</sup> Consider the weighty passage referring to the principles on which courts of arbitration and boards of conciliation should act, in Marshall's *Economics of Industry* (1879), Book III, chap. viii, §2: "They must not set up by artificial means arrangements widely different from those which would have been naturally brought about," *et seq.* Compare Marshall's Preface to (L. L. Price's) *Industrial Peace*, p. xxiii: "The arbitrator is compelled to take some account of the fighting forces of the two sides; the necessity to be practical may compel him to go further than he would otherwise have done away from an absolute standard of fairness."

<sup>2</sup> In the technical terms of *Mathematical Psychics* the utilitarian point in the contract-curve must not be outside the points at which that curve is cut by the indifference curves. It is significant that this abstract representation is adapted to the first rather than the second of the two cases in which the utilitarian arrangement would not be accepted,—the case, for example, in which the capitalist combination refuses the arrangement, because, considering it as permanently at work, they would be worse off than if they were to transfer their capital to some other field of enterprise: not the case in which they defer making an agreement for strategic reasons, because, being better supplied for a siege, so to speak, than the other party, they hope to reduce them in case of a strike to submission. Compare what was said above as to the advisability of not admitting this kind of strategy into industrial combat waged under ideal conditions.

<sup>3</sup> Compare Marshall, *Economics of Industry*, loc. cit.: "Mischief almost always results in the long run from an award which gives to one side terms much worse than those which it knows it could obtain by a strike or a lock-out."

of extreme *solipsism* which Jevons in a solitary but remarkable passage has propounded:—

Every mind is thus inscrutable to every other mind, and so no common denomination of feeling seems to be possible. . . . The motive in one mind is weighed only against other motives in the same mind, never against the motives in other minds. Each person is to other persons a portion of the outward world. . . . Hence the weighing of motives must always be confined to the bosom of the individual.<sup>1</sup>

Jevons himself has not remained consistently on this pinnacle of solitude. It is abandoned by economists in general in the received theory of taxation, founded, as Mill says, on "human wants and feelings."<sup>2</sup> Self-regarding self-interest, the gospel of Adam Smith, is not alone sufficient for industrial salvation: a leaf must be taken from his older and less familiar testament, of which the cardinal doctrine was *sympathy*. Sympathy does not necessarily imply sentimental attachment: sympathy, according to Adam Smith, is the basis of a not very sociable emotion,—ambition. A distinguished psychologist has not hesitated to pronounce "sympathy compatible with dislike."<sup>3</sup> It is, then, no counsel of perfection to cultivate sympathy, in the sense of mutual understanding, between the parties to distribution. No Utopian eradication of self-love is contemplated. It may be hoped, indeed, that through the practice of conciliation, in the course of generations, the dispositions of which the gratification constitutes self-interest may become more social, so that, for instance, an advantage founded on the extreme privation of others would not appear desirable to the capitalist employer of the future. But such "moralization" of the saving classes, though it may be expected, need not be

<sup>1</sup> *Theory of Political Economy*, edition 3, p. 14.

<sup>2</sup> *Political Economy*, Book V. chap. ii. § 4.

<sup>3</sup> Bain, *Emotion and Will* (Table of Contents).

postulated for the working of conciliation. Intellectual sympathy alone might effect much. The arts<sup>1</sup> by which the sympathetic imagination may be cultivated form a supremely important topic, but one which hardly falls under the *theory of Distribution*.

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<sup>1</sup> For example, co-operation, as many economists have pointed out, would have among its good effects enabling workmen to realize the position of employers. Again, the training of future business men in economics at the universities, as Professor Marshall has lately urged, would tend to develop the sympathetic use of the imagination. "It has been found," he says, "by experience in England and in America that the young man who has studied both sides of labor questions in the frank and impartial atmosphere of a great university is often able to throw himself into the point of view of the workingman and to act as interpreter between them and persons of his own class with larger experience than his own." See his address on "Economic Teaching at the Universities," published in the review of the Charity Organization Society, January, 1903, noticed in the *Economic Journal*, vol. xiii. p. 155, and his *Plea for the creation of a curriculum in economics* (addressed to the Cambridge Senate), noticed in the *Economic Journal*, vol. xii. p. 229.

Compare the expressions in the *Report of the Anthracite Coal Commission*, U.S.A. (1903), on the importance of "a more conciliatory disposition in the operators and their employees."

## THE RICARDIAN THEORY OF GOLD MOVEMENTS AND PROFESSOR LAUGHLIN'S VIEWS OF MONEY.

RICARDO considered the "precious metals," serving as money, to be divided among the several countries of the commercial world in certain normal proportions, governed by the comparative amount of money work to be done in each country. He maintained that the actual stock of gold held by a country could not vary far from its true normal share, because otherwise the exchange value of gold in that country would be too high or too low compared with the rest of the world. Gold, being an article of commerce, would flow to or from the country, according to the requirements of the case, so as to restore its normal value there, and thus also restore the true national share of the money metal. Conceiving the quantity theory of the value of money long since to have been vanquished in all familiar places, Professor J. L. Laughlin has called attention to the fact that a form of this theory serves as the basis of the ancient Ricardian explanation of specie distribution. This he regards as the principal defect of the classical doctrine, but upon detailed examination he finds a variety of other difficulties in it.<sup>1</sup>

In the view of the present writer it is possible to defend the old doctrine against all the criticisms advanced by Professor Laughlin. A number of the counts in his indictment take their origin in the well-known proximate, "business," "financial," conditions influencing gold movements,

<sup>1</sup>See Chapter X., *Principles of Money*, on "Prices and the International Movement of Specie," or an article under the same title in the *Journal of Political Economy* for September, 1902. Page references will be given first to the *Principles*, and secondly, in brackets, to the *Journal of Political Economy*.

such as the state of bank reserves, the prices of securities in the stock exchanges, or the state of the money market. To the end of preparing the Ricardian theory for rebuttal against Professor Laughlin's particular method of attack, the first thing attempted in this paper will be a theory of specie movements which shall conform to the general lines of Ricardo's doctrine, but which shall also touch upon both the proximate causes of gold shipments and the relation of these to the ultimate forces controlling them. It will be found, so it is believed, that Professor Laughlin really has based his own explanation of specie movements upon a premise which is true precisely because, and only because, the forces alleged in the Ricardian theory are operative.

### I.

For our present purpose all international movements of gold, whether the metal is contained in coin, bullion, or ore, may be divided into three classes. With the consent of the reader these will be called (1) producers', (2) commercial, and (3) financial, or money market shipments.<sup>1</sup> Producers' shipments are the large and more or less steady flows of gold which take place from those remote lands, in which it seems to be the lot of our principal supplies of new gold to be found, to the central commercial regions which afford its real market. Some of this metal is destined to be used in the arts. Much more will become coin. In any case, its transportation is but a stage in the larger process of the production or manufacture of refined bullion, jewelry, art objects, or coin. It is a peculiarity of these movements of gold that frequently they neither create commercial credit in favor of nor discharge

<sup>1</sup> The name "financial shipments," which of course has no reference to public finance, was suggested by the term "finance bills," which is used in money market reviews to designate bills drawn by bankers against borrowed foreign gold.

a debt in behalf of the country from whose bosom the precious find has been taken. Thus, if ore shipped from the Canadian Yukon region to the United States be the property of American miners who keep and expect to use their wealth in the United States, the receipt of this gold from Canada creates no claim in Canada against us for payment of any article of value. In cases of this kind the single international shipment is an end of the matter, as between Canada and the United States; and the effects upon subsequent world movements of gold are the same as if this gold had been mined within the borders of the United States.

If new productions of gold were to cease and the world should thus be forced to do with a fixed supply, the principal kind of producers' shipments would come to an end; but commercial shipments would retain the same prominence which they now possess. For by this term we intend to designate the commonest and most important form of gold flow; that is, the phenomenon to which an economist is supposed to refer when he speaks of a specie movement without a qualifying adjective. The function of this form of shipment is to discharge such balances of international indebtedness as must continually arise in consequence of the total trade and travel between nations. We catalogue the several familiar items which enter into the total account of international debits and credits, because discussion of the difference between "financial" and "commercial" shipments will require reference to this list. The factors in the balance of international indebtedness are: (1) the export and import of goods (*i.e.*, the "balance of trade"); (2) freight charges for goods carried in foreign-owned ships and the outlays of ships in foreign ports; (3) foreign sales and purchases of bonds and stocks; (4) the interest on foreign-held bonds and stocks (the sale of a security establishes a credit for its price, but the

interest subsequently to be paid upon it adds to the national debits for the ensuing years); (5) insurance, brokerage, collection, and similar charges made by parties in one country for services rendered those in another; (6) expenditures of travellers abroad and savings of immigrants brought from abroad (when funds are carried by letter of credit or draft). As a result of trade, traffic, and travel, two great debit and credit accounts are established. The totals of these fluctuate somewhat as do the resources and liabilities of a bank, but at any given time there may be a difference between the entire debits and credits. As soon as this balance manifests itself in the demand for and supply of bills of foreign exchange (speaking of the gold-using world), a commercial shipment of gold is produced in satisfaction of it. It may seem a stretch of the word "commercial" to make it cover shipments which are in part due to the influence of many items above which do not originate in mere commerce in the narrowest sense. The aim is simply to distinguish shipments of gold ascribable to the above group of influences,—to the total international trade, traffic, and travel, as it was expressed,—from shipments due to the movements of the discount rates in monetary capitals. The "commercial" influences act independently of comparative rates of discount, and independently of all the operations of foreign bankers. They establish the given or predetermined conditions for foreign bankers and shippers of gold, upon which their operations must be founded, just as the general domestic business and commerce of a country form the basis upon which ordinary banking is conducted.

"Financial shipments" is the name we have chosen for those produced by differences in the rates of discount in international monetary centres. They may occur in two forms: (1) as direct loans of gold, presumably upon collateral; and (2) as shipments in payment for a purchase

of floating securities. The first form is typical as far as principle is involved. If the rate of discount be higher in Berlin than in London, an actual shipment of gold may take place from England to Germany, the motive being the gain following from its employment abroad at a higher rate of loan interest.<sup>1</sup> A commercial shipment of gold always serves to discharge a previous international debt, but an initial financial shipment creates a debt and looks towards a future and early return shipment of gold. We say looks towards a return shipment, because the obligation to repay the borrowed gold may, in the course of trade, be liquidated by the debtor country's leaving gold with the creditor country which otherwise it might have drawn in the shape of a commercial shipment. A difference in the levels of discount rates may produce a financial shipment of the yellow metal by occasioning an export of securities from the place where the discount rate is high to the place where it is low. Here, precisely as in the other case, the gold flow moves from the market of low discount rates to that of high, but in the form of payment for securities purchased. For a rise of the rate of discount in London, for instance, tends to depress the selling price there of securities bearing a fixed interest, and thus tends to produce a sale of these elsewhere, in New York, for example, especially if the discount rate has fallen in that city.<sup>2</sup>

Though a sale of securities may, in this manner, produce a financial shipment of gold, another sale of securities may lead to a commercial shipment. For commercial shipments have been defined as those made to satisfy

<sup>1</sup> It should go without saying that change of the rates of discount does not always produce gold shipments, but commonly exhausts its influence in producing a movement of the rate of exchange within the margins of the shipping points.

<sup>2</sup> This point of the influence of discount rates upon export and import of securities is made with admirable clearness by Professor Laughlin. But one defending the Ricardian doctrine is compelled to deny that this is the fundamental force controlling specie movements.

a balance of total indebtedness, and the exports and imports of securities have been represented to be an important factor in establishing this balance. How, then, are we to tell when the effect of sales of securities upon gold movements is a financial, when a commercial influence? If the movement of securities is really but a means whereby the force of the discount rate is brought to bear on the stream of gold, we must call the influence financial. But the fundamental reason for the foreign sale and purchase of securities is not in the least a question of the transitory ups and downs of the discount rates in the money centres. The normal purchase of foreign securities is but the paper process incidental to an investment of industrial capital abroad, and as such depends upon the rate of dividends to be had from placing money in foreign industrial undertakings. These dividends do not fluctuate with the money rates in the speculative centres (where the export of gold is felt so keenly), and it seems perfectly justifiable to say the normal bond or stock bought by a foreigner is not likely to be put on sale merely because in a few weeks the relative position of discount rates is altered. Those securities purchased or held abroad against the solid consideration of economic interest are *genuine investment securities*, while that mass of stocks and bonds which is ready to shift its ownership and residence at the call of a change of bank rates may be spoken of as *floating securities*. Speaking broadly, the investment security goes to a country to stay, until a change in comparative rates of general economic interest or some great national industrial event dislodges it. The difference between the two kinds is undoubtedly one of degree, but that is nothing against the distinction. The test is clear. If a security will be sold abroad because of a change in the bank rates, its influence on the gold movement is financial.<sup>1</sup>

<sup>1</sup> The two kinds of securities distinguished here are not necessarily stocks of different sorts of corporations. The intention of the holder determines the class.

Producers' shipments, made from the outlying regions of civilization, depend neither upon a previously established balance of total indebtedness nor upon rates of discount. Commercial and financial shipments depend upon the two last-named elements in order. The distinction in theory between the three types of specie movement is probably clear enough; but, we must hasten to admit, the different kinds are, as often as not, inextricably mingled in practice. Especially do the financial and commercial influences operate jointly, more frequently than not, in opposing directions. In this case the actual movement is the resultant of the forces.<sup>1</sup>

## II.

Turning now to the final theory of our subject, we find that, according to the received doctrine, the gold supply of the world is divided among the gold-standard nations in certain regular proportions. The share of each country is adjusted to that of every other country. The proper share of a country, as distinguished from its actual stock, is well designated by the term *national quota*. The national quota is to be thought of as the normal centre about which the actual stock fluctuates. The conception is similar to that of the normal value of a commodity as the centre of oscillation of its actual market value. Under dynamic conditions these are also similar in that both are moving centres. The magnitude of each national quota depends upon the comparative amount of money work to be done in each country, and the degree to which this work is relieved by "representative money" and

<sup>1</sup> A classification of the *influences affecting* gold shipments might have been made instead of a classification of the shipments themselves according to the influences to which they are subject, but the difference would be largely one of words only. We would soon find it convenient to speak of commercial shipments, though the analysis, narrowly construed, authorized us merely to speak of commercial influences upon shipments.

credit instruments. It is a fair supposition that there is a larger volume of monetary transactions in the United Kingdom than in either France or Germany; but the two latter countries possess much larger stocks of gold, which is explained by their inferior development in the use of credit instruments.<sup>1</sup> In 1880, after the resumption of specie payments, the United States was reported to have a stock of gold of \$326,000,000;<sup>2</sup> while on June 30, 1902, this stock is supposed to have risen to \$1,174,000,000,<sup>3</sup> a sum three and one-half times that first named. About a decade ago (in 1891) the United States was reported to possess a stock of gold much less than that of France and but little larger than that of Germany or of Great Britain. After the lapse of the decade this country had a stock 37 per cent. larger than that of France, 54 per cent. larger than Germany's, and more than twice the extent of Great Britain's (that is, one 217 per cent. of Great Britain's stock).<sup>3</sup>

This absolute and relative growth of the national quota of the United States has been due, first, to the increase of the gold stock of the whole world, consequent upon the vast productions of recent times, and, secondly, to the increase of the volume of business, or of the money work to be done, in the United States, to a greater degree than the average increase for the world at large. In spite of our great development of so-called "deposit currency" as a means of effecting exchanges, our industrial and commercial growth has been such as to make our national quota outstrip all others in a fashion almost spectacular.

A mere glance at the statistics of the several national stocks of gold shows two things. These are not mere

<sup>1</sup> Report of Director of the Mint for 1880. In 1873 the estimated stock was but \$135,000,000.

<sup>2</sup> Monthly Summary of Commerce and Finance, February, 1903, p. 2331.

<sup>3</sup> Estimate of stocks of gold given in the Reports of the Director of the Mint for 1891 and 1901 compared.

chance quantities; are not what they are at any given time simply because international dealings happened, as it were, to leave them in that state at that time. But they are quantities which certainly maintain themselves, and are subject to some law of their own. In the second place the amount of the normal national stock has nothing whatever to do with the home production of gold. The commonwealths of British Australia produced \$217,000,000 and coined \$135,000,000 of gold in the three years 1898-1900. Yet at the end of this period not even so much as they had coined in the three years remained as their stock of gold. For January 1, 1901, the gold stock of these states is reported as \$128,000,000.<sup>1</sup> Australia would not benefit by keeping this gold, but above all cannot keep it. For it is a law of gold distribution itself that a surplus cannot accumulate. The surplus compels commerce. Similar phenomena would appear if the South African gold movements were examined. The stock of gold in the United States is in present times constantly being filled up by importations into our western ports of entry and constantly being relieved by discharge of gold to Europe from our eastern ports. In the three years 1900-02 the United States imported from Canada, Mexico, Japan, and Australasia (in excess of some trivial exports to these countries, almost all of which went to eastern Canada) \$121,000,000 of gold. In the same three years we exported an excess of \$103,000,000 to Europe over all importations from Europe.<sup>2</sup> Our importations from the producing regions named, coupled with our own production, fill our stock to overflowing, and compel a discharge. The manner in which the supplies of new gold spread

<sup>1</sup> *Report of the Director of the Mint for 1901*, pp. 43 and 144-147.

<sup>2</sup> Figures compiled from the *Annual Reports on Commerce and Navigation of the United States for 1900, 1901, and 1902*. The imports from Canada are for the most part from the gold fields of the Far North-west, and come in ore and base bullion. Imports from Australasia are 95 per cent. British coin of Australasian mintage.

over the world, keeping the stocks of the nations in their true relations, requires us to believe that the national quotas are maintained by forces which exert some sort of control over the trade in goods. For the gold is distributed almost wholly in payment for commodities bought in the course of trade.

We come now to the question central to the purpose of this paper.<sup>1</sup> How is a nation's stock of gold held at the level of its national quota? The received theory of specie distribution answers this question in accordance with the first laws of economics, and its answer is as satisfying to an unprejudiced mind as is an explanation of a problem in mechanics which refers to the first laws of motion. It affirms that the national quota is maintained by the tendency of gold, like all economic commodities, to flow to places where its exchange value is highest. In other words, the stocks of gold of the several countries are at their respective national quotas when a movement of gold from one country to another would be a movement of gold to a place where it would have a lower exchange value. The exchange value of gold in commodities is the inverse of the general price level. Therefore, the theory signifies that the national quotas of gold are maintained against the dynamic influences of trade by movements of the general price levels in the countries concerned. When new departures in trade and traffic bring a situation in which a country's total credits no longer equal its total debits, so that a flow of gold is produced which causes its actual stock of that metal to vary from its true national quota, the flow of gold itself sets in action the forces which reverse it and restore the na-

<sup>1</sup>In deciding the question of the ultimate forces of specie movements, nothing seems to depend upon the behavior of pure producers' shipments. After these shipments from the outskirts of industrial civilization have arrived within the borders of ordinary commerce, their future disposition depends entirely upon the course of commercial and financial shipments, and the question mentioned is to be answered by the study of these shipments.

tional quota. For, if a change in commerce necessitates a series of payments of gold from France to England that make France's stock too small and England's too large, the relative abundance of gold in England will raise gold prices there of things generally, while prices will fall in France. The result will be to encourage the sending of goods from France to England and to discourage the reverse trade. Export and import of commodities, it need hardly be pointed out, whatever be their ultimate connection with "comparative costs of production," are due solely to difference between the several countries in the prices of the goods traded. Now a rise of prices in England united with a fall of prices in France will increase French exports to England in either of two ways,—(1) more of the same goods that have already been standard French exports to England will be shipped than formerly, or (2) things which have just lacked a sufficient difference in price between France and England to make exportation pay will attain that difference through the movement of the general price levels. In a reverse manner, England's exports to France will be made less than they otherwise would have been. This combined effect upon the movement of goods will give France a comparative excess of exports of goods. England will have to pay for these. The payment constitutes the return of the gold required to restore the French national quota. Except for frictional influences, the excess exports from France must be of just that volume and endure for just that time necessary to restore the quota, since they are caused by the aberration of the actual stock from the quota, and should continue while that cause remains to operate. (In the mean time, of course, the French national quota may become a larger or smaller quantity.)

## III.

A complication in the theory of commercial shipments remains to be cleared up. An outflow of gold that impairs the national quota might be caused by an increase in our purchases of foreign securities or an increase in our freight charges owed foreign ship-owners. When this flow reacts on the subsequent course of the balance of total indebtedness so as to bring the gold back to the home country, does it do so by reducing our purchases of foreign securities or our employment of foreign ships? In all probability not. If, to take another debit item, American tourist expenditures abroad increase, the received theory requires that the debit account which they thus create for this nation be paid in the end by a corresponding increase in our exportations of common merchandise. If the increase in merchandise exportation should not immediately accompany the increase of travel, it would be drawn into being later by price conditions.

The received theory, amended by addition, teaches that the earliest adjusting factor in the balance of total indebtedness is the "balance of trade." Any increase in our debits abroad which is due to change in the other factors in total indebtedness—that is, due to the so-called "invisible balance of trade"—is in the end compensated for by an increase in our exportation of goods. This is the true account of the enormous standing excess of American exports of merchandise. The investment of capital abroad, the travel of tourists, and all the other factors outside of the balance of trade itself are the comparatively independent variables (*i.e.*, independent of specie movements), the balance of trade in goods is the *compensatory variable* in the balance sheet of total indebtedness.

It is true that one of the earliest means of settling an

excess of debits abroad in a way to prevent exportation of gold is an exportation of securities. That is, floating securities, especially those in which there is speculation and those employed largely as collateral, may be exported because of the movements of the discount rates. As argued already, this is but a mode of bringing the financial influence to bear. The feature of this influence is that it is temporary and of strictly limited scope. If the exportation of gold is caused by a relative excess of imports of goods, this excessive importation must be stopped. Should this continue, the time would arrive only too soon when the discount rate would become an impotent influence on the flow of gold. If the balance of trade were to turn unfavorable to the United States, say to the extent of \$10,000,000 a month, or \$120,000,000 a year, and remain that way, every one knows that the corrective of elevating the rate of discount in New York would soon fail to restrain its cumulative force. It is because of the seasonal oscillation of the American balance of trade that the influence of money rates upon gold movements can assume such practical importance in our eyes. We may forget the Titanic underlying force of the balance of trade so long as it keeps its equilibrium. When in its minor vibrations it turns unfavorable and then swings favorable, the influence of the discount rate is a first-rate agency to exercise in the interim some control over the gold flows. In the event that production in the different nations pursues for a period a pretty even dynamical career, the balance<sup>1</sup> of indebtedness may remain in such a state of equilibrium, as far as large tendencies are concerned, that the shipments of gold which do take place are dominated by financial forces. But the rate of discount can be the ruling factor only while the "com-

<sup>1</sup>The employment of the word "balance" throughout this paper, now for balance-sheet, now for an equality of debits and credits, and again for the difference between these, is of course no departure from common usage.

mmercial" forces are quiescent. The national quotas of gold cannot be maintained unless the balance of total indebtedness which lies at the bottom of gold movements in the long run preserves its equilibrium.

Professor Laughlin himself has felt this, and consequently he assumes the "balance of exports and imports" at the outset of his argument (apparently as a sort of self-evident truth which, if it have a cause, at least does not need to be explained). To quote his words:—

Without further delay, it may be permitted to pass to a statement of what seems, in my judgment, to be the true relation between prices and the international movement of gold. The essential truth in international trade is the well-recognized fact that imports are paid for by exports. In this sphere it is well understood that goods are exchanged against goods, and that the medium of exchange is merely a subsidiary agency devised for the convenience of traders.<sup>1</sup>

We have yet to inquire why exports and imports "tend to balance." In the opinion of the writer, absolutely the strongest argument for the received theory of specie distribution is that it is the sole and only hypothesis upon which this well-recognized tendency can be explained under the conditions of a monetary economy.

Let us see if this cannot be shown. If international exchange took place under conditions of real barter, it would indeed be impossible for exports and imports not to balance. For by hypothesis every good traded is exchanged directly for another good considered its equivalent by the parties to the transfer. But under actual conditions the individual exporter, so far from seeing to it that he receive an equivalent import of goods for those he sends abroad, is probably not an importer at all. It almost seems to be the business of foreign traders individually and collectively to break down the balance of ex-

<sup>1</sup> Page 375 or [321, 322].

ports and imports; for expansion of business, towards which all strive so assiduously, is but the effort to increase sales of merchandise for other people's gold. Amidst the multifarious enterprises of foreign traders the national stocks of gold keep substantially steady. For years, in earlier times, they maintained themselves against the machinations of mercantilist statesmanship, so called. Not even the death penalty frequently prescribed for exporting gold and silver served to augment the national stock beyond its proper proportions. The only explanation is that the economic conditions upon which the dealings of foreign traders depend are so controlled that those exportations or importations of goods are checked which would entail an aberration of the actual stock of gold from the national quota. These conditions can be none other than conditions of prices. Goods move because of price differences. An excessive flow of specie produced by a movement of goods can check itself only by affecting the cause of that movement of goods; i.e., prices. When gold becomes relatively abundant in one country, it lowers the exchange ratio of gold to goods. Why not? Can the facts of international trade be explained on any other hypothesis? It seems to me that, in assuming the "balance of imports and exports" and attacking the received theory of specie distribution, Professor Laughlin really takes the position of denying the foundations of his own first premise. Without the premise that exports and imports of goods "tend to balance," the theory that the rates of discount are the fundamental forces of specie flows would fall immediately to the ground.

To conclude the statement of the received theory, it will be necessary to explain what the doctrine asserts with respect to the precise cause of specie movements and the cause of international trade itself. If I may be

allowed to suggest, Professor Laughlin completely misapprehends the doctrine in this important point. He says:—

It becomes perfectly clear that the movement of gold is a result, not the cause, of the movement of goods in international trade. While this is but a simple statement of patent facts, it is to be observed that this is not the sequence of events set down in the quantity theory, since that theory teaches that goods move after the change in quantity of the circulation within a country has affected prices.<sup>1</sup>

But the doctrine we are considering does not teach the absurdity that the origin of international trade in goods lies in a previously started movement of gold. It teaches only that, when the trade in goods has arisen, it will be controlled, not caused, by the action of gold flows on prices. To be precise, the immediate cause of a commercial gold movement is such a price of bills of foreign exchange as will make gold shipments profitable to professional exporters and importers of the yellow metal. But the cause of this cause is a balance of total indebtedness. The intermediary movements of foreign exchange are but the means through which the shipment is brought about. Thus the proximate cause of a commercial shipment of gold is always a balance of total indebtedness determined by the previous course of trade and traffic. Of course, any given commercial movement of gold is always a consequence of the preceding movements of goods associated with it; but a specie flow may react upon the subsequent course of trade, and will, when necessary to restore a national quota. If it is required that a first specie flow produce a second flow in the reverse direction, the second, when it comes, will in turn be the consequence of a movement of goods. But this movement of goods will have been due to the general condition of prices created by the first flow. It is not for an instant main-

<sup>1</sup>Page 377 [or 524].

tained that the kind of merchandise which constitutes the induced movement of goods, intermediate between the two gold flows, is determined by specie influences. The merely natural trade in goods between the countries is encouraged here and discouraged there. The theory is perfectly consistent and rectilinear in its description of causes.

#### IV.

We may now consider Professor Laughlin's further criticisms in detail. The great fault of the Ricardian doctrine would seem to be that it involves the quantity theory of the value of money. But this depends on what is understood by the quantity theory. The received theory of gold movements assumes merely that, when the quantity of gold in a market increases, the value of gold falls. All that is involved in this doctrine can be stated in the words of so distinguished a gold monometallist as Giffen; to wit, "The quantity of money is a material factor in determining the value of money."<sup>1</sup>

(1) In section 3 of his chapter, Professor Laughlin gives serially five "evident difficulties in using the classical theory whenever we try to explain modern conditions":—

In the first place the action of the international markets, with telegraphic quotations from every part of the world, precludes the supposition that gold prices could in general remain on a higher level in one country than another (cost of carriage apart) even for a brief time.<sup>2</sup>

But the received theory affirms nothing as to how long separate price levels can remain apart. Again he says:—

A century or so ago, or even among existing nations having no rapid communication with commercial countries (if there are any such), perhaps prices might, unknown to traders, remain at different levels in different countries. In that case, . . . possibly the level of prices

<sup>1</sup>Giffen, *Case against Bimetallism*, p. 216.

<sup>2</sup>Page 309 [or 517].

might be raised or lowered in these detached and remote nations by the addition or subtraction of gold in international trade.<sup>1</sup>

Be it admitted, then (solely for the sake of argument on the point of rapidity of communication), that, if communication of price news were slow enough, excess inflows of gold might raise prices, and in this way bring about the necessary counteracting outflow. Surely, mere reduction of the time of communication cannot alter the nature or principle of the process. As this time grows shorter, the price movement caused by an excess importation of gold would simply meet with a prompter importation of goods to set up the necessary counterbalancing flow of specie. In other words, improvement of communication decreases the extent of the movements of price levels. The several national stocks of gold may be likened to reservoirs connected by the pipes of gold movements. Commerce in goods anon forces a gold flow through the pipes which disturbs the level of the stocks. Now the quicker communication becomes, the speedier is the reaction against the disturbing gold movement. If the reaction attains to such perfection that the disturbances of levels become almost imperceptible, it is not because the forces are changed in nature, but because their action is facilitated. Would Professor Laughlin argue, because Chicago and Liverpool prices are adjusted one to the other by telegraph, that a difference in the price of wheat at these points is in present times no longer the cause of its movement between them, although perhaps in former days this was the case? The prices or values of things in different markets are brought together only by *movement* of these things. If the use of the telegraph were the only reason for doubting the operation of the Ricardian forces

<sup>1</sup> Page 380 [or 520]. The words omitted from the passage are, "if gold were also the sole medium of exchange, and if there were no free coinage." These were left out to enable us to take one point at a time.

of specie distribution, the theory would certainly be most secure.

The following passage runs in a similar vein of criticism:—

If prices in general fell one-half in England, and if they remained unchanged in the United States, . . . an enormous premium would exist on shipments only from England to the United States, and it would wholly stop all goods from leaving the United States for England. *Such an extreme case shows how absurd it must be to reason on the supposition that gold prices can maintain a different level in different countries.*<sup>1</sup>

The theory does not at all assert that prices maintain a different level in different countries. The stages in the process described by the doctrine are stated separately as (1) gold inflow, (2) rise of prices, (3) extra import of goods, (4) counterbalancing gold outflow. It is not meant that this process takes place in several disjointed steps with a certain interval of time between each. The steps are disjointed only in the analysis. As the first flow sets in, while it is running, the resisting price forces are generating. The extent of the first flow depends on the dynamic causes behind it, on its momentum. The extent to which the price level is disturbed depends on the same causes, but there is no question of the price level being maintained at an absurd place. It is restored to its normal position just as quickly as business readjustments, aided by the telegraph, can effect this result. Professor Laughlin's criticism here seems almost like an argument that gravity does not maintain the levels in connected reservoirs because it would be absurd to think of one level being twice as high as the other, since gravity itself would prevent this. He has stated that the enormous "premium" on export from England to the United States would make it absurd to think of the English price level falling

<sup>1</sup> Pages 379-380 [or 526]. The Italics are mine.

one-half. Precisely, this sort of premium is the force postulated by the received theory. It is supposed to act early enough to prevent absurd situations.

(2) The second in the list of criticisms is as follows:—

One country is trading with many other countries; and, even if that one received much gold, it would probably have come (even through some financial arbitrage centre) from all the countries it traded with (in its new exports). Thus no fall of prices may take place in the importing countries, *of such a nature* that the international movement of goods is needed to again bring about equilibrium.<sup>1</sup>

But one can hardly believe that, if two or more countries suffer loss of gold to some one country which has put out new exports, the effect on prices would be of a different "nature" than if one country lost the gold. If France and England together should lose \$100,000,000 to the United States (each losing \$50,000,000), it is hard to see how the effect on French prices would be of a different "nature" if France lost \$50,000,000 alone. Whether France lose gold directly or through an arbitrage centre makes no difference, if she lose the gold. I may have mistaken Professor Laughlin's point, but to me the above criticism seems like an assertion that in explaining the forces which maintain the equality of levels in connected reservoirs the theory which holds good for two may fail for three or more.

(3) In the third place:—

the [Ricardian] theory seems to regard the local value of gold as causing a change of prices within a country, while the value of gold is an affair of world-demand and world-supply.

The theory does not regard a change in the local value of gold as "causing" a change of local prices, but simply as being that change of prices. For decades the com-

<sup>1</sup>Page 360 [or 517]. The Italics are mine.

monwealths of Australia have exported a vast quantity of gold. During a recent period the United States has received a great amount of gold from Australia and from the fields of the North-west, and during the same period this country has made correspondingly large net exports of gold to Europe. We explain these large and steady flows of the metal as being due to the slightly decreased exchange value of the same in the countries from which it moves. But Professor Laughlin considers that the "world-value" of a thing hangs to it, as it were, wherever it is, that a thing with a world-value cannot exchange locally at a different rate, no matter what the local conditions of supply. But an economic good, commodity or gold, has a world-value when it is used throughout the commercial world and when it is free to move between the parts of the world. The uniformity of its value in all the parts (putting aside differences due to costs of transportation) which we name a "world-value" is not perfect; and, so far as it exists, it is maintained by means of the movements of the good between the parts of the world. These movements themselves are due to minor differences in the value of the good in different places. The differences are constantly appearing, and the movements are constantly reducing or removing them.

(4) The fourth count is stated in these words:—

The causes permitting a new export are individual and not general; are due to relative expenses of production or to changes in relative demand and supply, and not to a general change of prices.<sup>1</sup>

Here is suggested the often alleged antagonism between the theory that prices depend on the supply of money and the theory that the price of any given good depends on its cost of production. The antagonism is quite fictitious. The law that cost of production (no matter

<sup>1</sup> Page 371 [or 518].

which form of cost is intended) regulates exchange-values signifies merely that, if A exchange for B, it is because an A costs the same as a B. The law holds perfectly good whether A is worth \$4 and B \$4 or A \$2 and B \$2 in gold. There is no inconsistency between the law of costs and the theory that a change in the supply of gold will alter gold's exchange relations with all other goods. Grant that the exchange value of steel rails or cotton depends on their supplies, no one would say that their exchange ratios with wheat, for instance, do not depend also on the supply of wheat. The exchange ratio between steel and wheat will alter because of either a change in the steel supply or the wheat supply (or demand as well). It is just as easy to see that the exchange ratio of steel to gold can alter with a change in the cost of production and supply of steel, or with a change in the supply of gold as well.

(5) The fifth count involves Professor Laughlin's new theory of credit in relation to money. The argument is, namely, that imports of specie cannot affect prices because specie all goes into the reserves of banks.<sup>1</sup> In support of the received theory the argument runs that incoming gold which enters bank reserves will act on prices as well as if it enters circulation. When reserves are increased, the limits of loans are widened. A widening of these limits is not necessarily followed by an increase of loans under every conceivable circumstance; but it is absolutely commonplace that normally imports of gold increase loans and exports of gold decrease them. If, in the course of a year's trade, the country's stock of gold is augmented

<sup>1</sup> It is often stated that all the gold money in this country is in the bank and government treasury. This is, however, by no means certain. In the *Report of the Director of the Mint for 1902*, p. 54, it is declared that of the estimated gold stock in this country, June 30, 1901, \$1,015,000,000, only 64 per cent. can be located in the treasury and in all the banks of all kinds in the country. This leaves 36 per cent., minus an indeterminate amount for the accounts of hoarded and lost gold, as the estimated gold in actual circulation.

by unusual inflows, bank loans will be more expanded than they would have been *otherwise*. This means that throughout the "business world" generally there will be more buyers of goods ready to offer acceptable "purchasing power,"—*i.e.*, bank credit,—than would be the case otherwise. If loans are easy, if money is "cheap," it will pay men better to embark in new business departures or to expand old business. At a given point of time the stock of goods of all kinds that can be sold is absolutely fixed. Time is required everywhere to meet increased money demand. Expansion of bank loans increases the number and competition of buyers and does not increase the number or competition of sellers. In this way an abundance of gold entering bank reserves makes prices rise. The common belief that plenty of money at home makes "business boom" and prices rise is not the result of any abstract speculation on the part of the "populace," but is merely the product of common experience.

To these considerations, with which he is of course familiar, Professor Laughlin replies:—

In legitimate banking, loans are made because of satisfactory collateral or actual transfers of goods, and not merely because reserves are high. To be sure, if reserves rise, more loans are possible and rates of interest will fall; but merely because a bank can loan, it does not follow that it does loan.<sup>1</sup>

The point is not stated straight from the shoulder. There is one too many "merelys" in the citation. No one has suggested that loans are not made because of satisfactory collateral. Loans are made with a view both to the security offered and the specie in the bank. When a banker's specie holdings increase, he lowers his rates sufficiently to call out enough desirable applications for loans to enable

<sup>1</sup> Page 387 [or 533].

him to expand his interest-bearing lendings.<sup>1</sup> His motive is to make the reserve earn. The doctrine that the amount of loans and accommodation to be had by the public from the banks does not depend on the reserves because it depends on the character of the collateral is hard to understand in the light of the painstaking account kept in monetary centres of the accessions and withdrawals of gold. It seems as if those most concerned regard international movements of gold as anything but a mere change "of place of storage," as Professor Laughlin at one place calls them. The practice of financial reviews in connecting the course of the reserves with the future rate upon and volume of loans has persisted since there has been an organized banking money market. Are we to infer there is no basis in actual tendencies for this practice?

Chart I. accompanying this paper shows the course of the loans and discounts of the Associated Banks of New York City during a period of nearly six months, from December 13, 1902, to May 9, 1903, in relation to the reserves of these banks for the same time. But, as indicated on the margin, the course of the reserves for any given series of dates is placed directly under that of the loans for a period just three weeks later. The movement of the loans is (in part) a consequence of the movement of the reserves; and it was found that, with remarkable uniformity, it takes three weeks for the changes in reserves to work their effect upon the loans. The relation of the two movements here charted is by no means always so close in detail as in this period, but there is ever present a tendency for

<sup>1</sup>It is not asserted that either the loans or deposits of a bank must bear the same fixed percentage to the cash reserve in all times and in all places. How much the proportions of the necessary reserve will be reduced in the future is an interesting question. The proposition is solely, at a given time and in a given place, then and there, an increase in reserves will increase loans. The time may come when we will exchange goods solely by means of a medium of credit instruments. So may the time come when we will have "ideal" money; *i.e.*, without material or bullion value. But a theory of credit is supposed to be an analysis of things as they are.

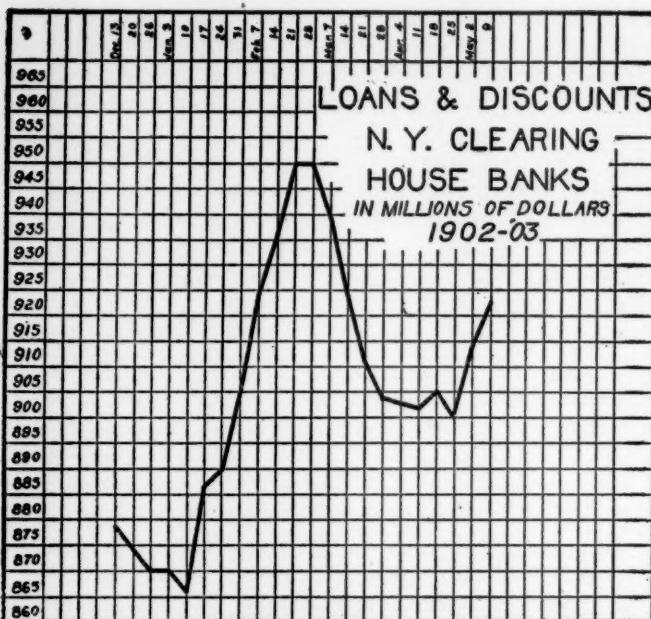
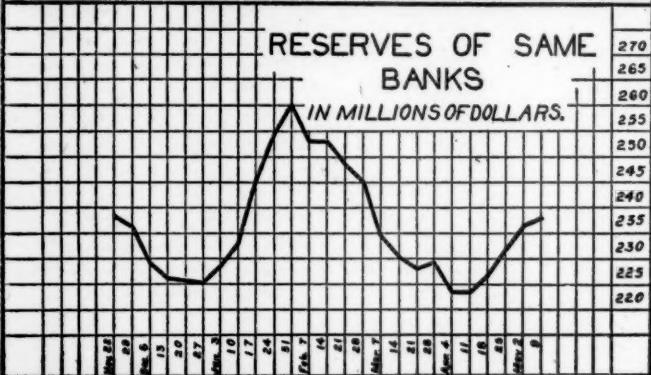


CHART I.  
SHOWING DEPENDENCE OF LOANS ON RESERVES.



loans to contract and expand with reserves, so strong that Professor Laughlin's doctrine seems most remarkable in view of the facts. That imported specie entering the reserves of home banks tends to expand loans is absolutely incontrovertible. Exceptional circumstances apart, it does expand loans. A loan is used by the party accommodated to enable him to become a buyer. The effect on prices follows naturally.

Professor Laughlin's theory of credit makes the assumption that it is a matter of indifference to the volume of bank loans in a money centre whether gold is being exported from or imported to that centre. The conduct of the writers of the New York money articles in keeping such scrupulously accurate account of the movements of specie is inexplicable on his theory.

## V.

Yet another attack remains to be considered:—

The recognition of the force exerted by the rate of interest on the movement of loanable capital gives the final *coup de grâce* to the old theory.<sup>1</sup>

It is hoped the discussion already given of the relation between "financial" and "commercial" shipments has been sufficient to show both that it is entirely compatible with the Ricardian theory to recognize the full force of money rates on the gold movement and that this force is entirely subordinate to commercial forces. The great course of trade and traffic which determines the balance of international indebtedness does not depend on the relative rates of discount in the monetary capitals, but the movement of these rates is very largely determined by the influence of the balance of total indebtedness. The futility of contending that the rates of discount, or the general rates of economic interest, exercise ultimate con-

<sup>1</sup> Page 383 [or 529].

trol over specie movements is shown by the statistics of any gold movement. For years Australia has exported vast quantities of gold to the Old World, the stream flowing away from Australia all the time, while interest on money was higher there than in the Old World. This stream goes in the shape of shipments to pay for excess imports of merchandise. The excess is due to the fact that Australia is perpetually having her stock of gold augmented beyond the requirements of her national quota. This means that gold prices run high in Australia. The discount rate does not enter into the problem.

TABLE OF SOME PRINCIPAL GOLD SHIPMENTS FROM NEW YORK, 1900-01.

Gold Export from New York. <sup>1</sup>	Discount Rates. <sup>2</sup>			
	New York.	London.	Paris.	
July 18, 1900 \$2,028,000 to France	3½-4½	3	3%	July 13
Aug. 8, 1900 3,308,000 " England	4-5	4	3%	Aug. 3
" 8, 1900 2,008,000 " France	4-5	4	3%	Aug. 3
" 10, 1900 3,325,000 " England	4-5	4	3%	Aug. 10
" 14, 1900 8,204,000 " England and so on	4-5	4	3%	Aug. 10
May 29, 1901 4,052,000 " France	4-4½	4	3%	May 25

If forces of interest rates were the adjusters of national quotas of gold, each country would have its national quota when its interest rates were on a level with those of other countries. But gold flows are not the means of bringing interest rates together. Interest rates are not low where gold is plentiful, but the contrary is a common case. If the interest rates of Australia are to be brought to the level of those of Europe, the result must be accomplished by the shipment of real capital goods to Australia. If

<sup>1</sup>From *Report of the Director of the Mint*, 1901, pp. 84, 85.

<sup>2</sup>From the *Monthly Summary of Commerce and Finance*, June, 1901, p. 304.

such goods appear in the imports of merchandise into Australia, and help to make an excess of imports, the reason why they are not paid for by exports of raw materials,—*i.e.*, by merchandise exports,—alone is because Australia has the gold to pay a reckoning of excess imports. If the discount rates were the controlling factor in gold movements, how could it be explained that New York is constantly exporting gold to Europe when New York discount rates are higher than European?

## VI.

Professor Laughlin advances several statistical points which he considers to refute the classical theory of specie distribution. For instance, our attention is directed to the following table (the last column of which is added by the present writer):<sup>1</sup>—

Years.	Excess of Imports of Gold.	Exports of Merchandise.	Imports of Merchandise.	Excess of Exports of Merchandise.
1878	\$4,100,000	\$694,800,000	\$437,000,000	\$257,000,000
1879	1,000,000	710,400,000	445,700,000	264,000,000
1880	77,100,000	835,600,000	667,900,000	167,000,000
1881	97,500,000	902,300,000	642,600,000	259,000,000
1882	1,700,000	750,500,000	724,600,000	25,000,000
1883	6,100,000	823,800,000	723,100,000	100,000,000

It is pointed out that through the period 1878–83 the United States received a large volume of net imports of gold. According to the received theory, says Professor Laughlin, our exports of merchandise ought to have been reduced and our imports increased by this inflow of gold. Instead of this our exports advanced through the period. This is the sum total of the criticism.<sup>2</sup> It will hardly stand examination. (1) In the first place the theory re-

<sup>1</sup> Page 373 [or 520].

<sup>2</sup> See p. 373 [or 521].

quires that during such a period only the excess of our exports over imports of merchandise should decrease (and this it requires only under certain circumstances). With foreign trade expanding, both exports and imports might increase, while simultaneously the excess of exports over imports decreases; and this happened during these years. In the first half of the period (three years) we exported an excess of goods of \$688,000,000. Then came the great influx of gold in the two middle years of \$174,000,000 (net). Thereupon in the second half of the period (three years) our excess exports of goods dropped to \$384,000,000, which is but 55 per cent. of \$688,000,000. After all, it appears as if the influx of gold did have the required effect upon our excess of exports.

(2) But beyond this the Ricardian theory does not require that the accessions of gold to the United States during this period should necessarily have any reaction upon the balance of trade. The theory requires that the national quota of the country be maintained by commerce. When the national quota increases (by reason of the growth of the volume of the business of the country), the theory requires precisely that commerce shall produce and maintain an excess importation of gold,<sup>1</sup> which will enable the actual stock to keep pace with the national quota. Thus in virtue of the very force postulated in the received theory there may exist periods in a country's commercial history during which there ought to be continuous outflows of gold or, in other cases, continuous inflows.<sup>2</sup>

The statistics given by Professor Laughlin for the period 1889-96 are no more harmful to the old theory than the table just considered. In both cases the criticism is

<sup>1</sup> Unless home production in excess of consumption in the arts suffices.

<sup>2</sup> During the decade of 1892-1901 France imported a clear excess of \$300,000,000 of gold. As France produces no gold, this great inflow is required to supply her consumption and keep her actual stock up to her advancing national quota. Figures compiled from *Monthly Summary of Commerce and Finance*, February, 1903, p. 228. The Ricardian forces compel her commerce to bring her this gold.

based on the assumption that the theory necessitates certain statistical consequences which in fact, as can easily be shown, it does not require.

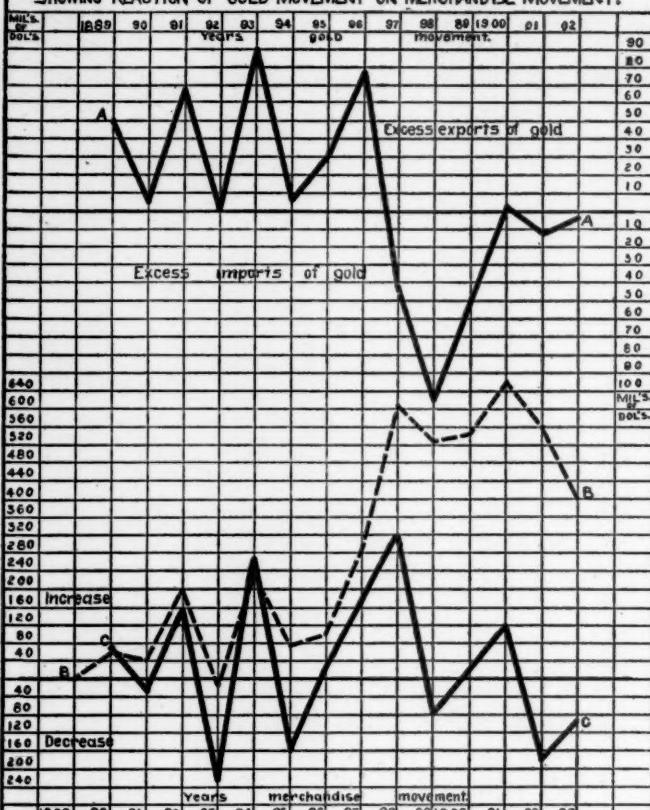
(3) The classical theory does not pretend that its price forces control the balance of imports and exports further than is necessary for the maintenance of the national quotas. Great changes in the balance of trade may be a matter of entire indifference to these forces. When a country comes to have surplus capital to invest abroad, it may begin to purchase securities from foreign countries (including its own formerly purchased by the foreigners) upon a grand scale. It will pay for these by an increase in its excess of exports. This is what the United States seems to be doing at the present time. Our enormous excess of exports does not act to bring us too much gold. Many movements of the balance of trade do not touch the gold stock.

Every year in recent times has witnessed an excess of exports from the United States over imports. Now, if we compare this excess each year with the preceding year, to note the increase or decrease of the EXCESS itself, an interesting relation appears between this movement and the gold movement. (See Chart II.)

In Chart II, lines B and C are so placed that the sections of them for each year are directly under the sections of line A for the years just preceding. If fluctuations of the gold movement react on commerce (through prices), their effects must come after their own occurrence. A year is entirely an arbitrary time to allow for the effect; but, as our most accessible statistics come by years, we may proceed with the gold movement curve one year ahead of the balance of trade curve in the hope of obtaining a tentative result. The decline together of the first joints of the curves A and C signifies that the decrease in our exportation of gold for 1890 as compared with

## CHART II

SHOWING REACTION OF GOLD MOVEMENT ON MERCHANDISE MOVEMENT.



## EXPLANATION.

- A-A. Curve of U.S. net gold exports or imports in millions of dollars.
- B-B. Curve of U.S. excess exports of merchandise in millions of dollars.
- C-C. Curve showing the increase or decrease of each years exports of merchandise compared with the excess of the year just preceding.
- B-B and C-C are on the same scale. A-A is on a separate scale, for further explanation see text.

1889 was followed by a decrease in the excess of our merchandise exports the next year. The second joint of the gold movement curve rises as if by reaction (from a net export of gold of \$4,000,000 in 1890 to one of \$68,000,000 in 1891). The second joint of curve C thereupon rises as well. This indicates that the excess of merchandise exports for 1892 increased \$163,000,000 over the excess for 1891. It will be noted, in the period of twelve years charted, these lines rise and fall together except for the year 1898, when curve C rises where a fall was required to make the chart regular. By way of compensation, however, in the next year the curve makes a very great drop.<sup>1</sup>

TABLE FROM WHICH CHART II. IS MADE (000,000 OMITTED).

Year.	Excess of Exports over Imports of Goods.	Increase (+), Decrease (-) of Each Year's Excess Compared with the Preceding.	Net Excess of Gold Movement. Exports (+), Imports (-).
1889	-2 <sup>2</sup>	-	+49
1890	68	+70	+4
1891	39	-29	+68
1892	202	+163	+0.4
1893	-18 <sup>3</sup>	-220	+87
1894	237	+255	+4
1895	75	-162	+30
1896	102	+27	+78
1897	286	+184	-44
1898	615	+329	-104
1899	529	-86	-51
1900	544	+15	+3
1901	664	+120	-12
1902	478	-186	-3
1903	394	-84	-

<sup>1</sup> Curve B indicates the simple course of our excess of exports of goods with the same base line and scale as C. Curve B plots the figures of the first column of the table given on page 49. The vertical scale of B and C is one-fourth that of A. The difference of scale was adopted simply as a matter of convenience to keep curves B and C on the sheet. The direction of the balance of trade line is to be compared with the direction of the gold movement line. The lengths of their respective joints are not comparable, nor would they be with equal scales.

<sup>2</sup> Excess of imports.

The writer's tentative interpretation of Chart II. must be put as briefly as possible. In this period of twelve years our excess of exports of goods (our "favorable balance of trade") has increased in a phenomenal manner. In 1891 it was \$39,000,000, in 1901 \$664,000,000. In the latter five years of this period (1897-1901) we imported a net excess of \$210,000,000 of gold. This is about 8 per cent. of the excess merchandise exports. The remaining 92 per cent., or \$2,430,000,000, must be balanced against other debits than gold received. That is, since we did not give these goods away, we must have become indebted to the outside world for this immense sum in certain of the leading accounts in "the balance of total indebtedness" other than merchandise, such as foreign securities purchased (as permanent investments) and the rest. As explained already, so far as this increase of exports of goods is but payment for equivalent values received other than gold, the gold stock of the country is not affected by them, and the price forces of the received theory are not called to action. But, as the excess of exports increased through these years, it rose by jerks. In a nutshell, it is these jerks that we find correlated with the gold movement. The explanation, therefore, runs as follows. Dynamical influences (of production and commerce, entirely independent of the Ricardian specific forces) led our excess of exports to increase generally through the period. But, while pursuing this general line, the excess swings from side to side along the course. Let us adopt the term "invisible balance of trade" for the sum of all the accounts other than the real "balance of trade" (in goods), which enter the "total balance of indebtedness." Now, whether the "invisible balance of trade" remains constant or shows an increasing excess of credits or of debits, the real "balance of trade" in ad-

justing itself to this movement<sup>1</sup> is certain to oscillate about its necessary course. Its necessary course is that which will compensate for an excess of the "invisible balance" either way, and bring the total national debits and credits to an equality (or, more precisely, to that position which will occasion that gold movement which is requisite to preserve the national quota). Along the dynamical path of our foreign commerce at one time our exports swing too far in excess even of our expanding debits, then again they swing below them. Thus they produce flows of gold, at one time to the country and again from it. Whenever this is their effect, the Ricardian forces, reacting against disturbing gold flows, throw the excess of exports back into its proper position. When under its true trajectory, the excess is encouraged; when over it, restrained. All is accomplished by gentle movements of the home price level relatively to foreign price levels. A movement of the price level produced by a given flow of gold may of course lead to a movement of commodities many times the volume of the flow of gold. Indeed, it is probably this fact which accounts for the very strong reactions, or alternations, which appear in the curves plotted in Chart II. In view of these relations, which are found upon entering the vestibule of the statistical problem, the writer feels justified in claiming a presumption that statistics will confirm the received theory, should they be exhaustively studied. That is, provided they can be made conclusive one way or another.<sup>2</sup>

<sup>1</sup> Compare the argument in earlier pages that the compensatory variable in the total balance sheet of international debits is the trade in goods.

<sup>2</sup> The writer has prepared a chart showing the reactions between the gold movement and the movements of the general price level in the United States for the period of 1800 to 1900. A remarkable interaction appears between the gold movement and the lesser oscillations of the price level about its general course through these years. The present article is already too long to permit presentation and discussion of this chart.

## VII.

The received theory of the international distribution of specie could be stated in a short paragraph. But to expound it fully and to determine, as far as we are competent, whether it is true in view of the attacks upon it, has required a discussion of weary length. This only shows that any proposition of economic theory is one of high cost. To explain the large and permanent fact that a nation's total commercial debits and credits must balance, so that, in the end, no nation gives up its money to obtain foreign goods or services, an hypothesis suggested itself to Ricardo. He, though a broker by profession, was able to see beyond the maze of proximate business intricacies which so often confuse persons who stand too close in to them, and thus to formulate one of the finest doctrines of economic theory. The concluding word for the doctrine is that it possesses the threefold merit: (1) that it is an hypothesis which explains the problem, being in this without a rival; (2) that it is virtually a corollary of the first law of economics, the law of supply and demand; (3) that neither a sound theoretical nor statistical disproof of it is extant. That is to say, the last is true, unless the conclusions of this paper are very much mistaken. The best theoretical evidence we have for the quantity theory is that it is the only explanation of the facts of the international movement of gold. If the quantity theory were not true, it would be a matter of entire indifference what the stock of gold money might be in any country.

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## THE FUND AT BOSTON IN NEW ENGLAND.<sup>1</sup>

IN September, 1681, about thirteen years before the Bank of England was founded, there was launched in Boston a financial experiment called "The Fund," or, more explicitly, "The Fund at Boston in New England," the purpose of which was to furnish credits similar to Bank Credits, which should be available through transfers of account for the transaction of business between members of the Fund, and which might, perhaps, ultimately be accepted in use by the public. All knowledge of this movement lay dormant until J. Hammond Trumbull ran across a pamphlet in the Watkinson Library, entitled *Severals relating to the Fund*, which was published in 1682, probably by "The Fund" itself, since the evident purpose of the tract was to familiarize its readers with the objects, the intentions, and the methods of the company. The title of this pamphlet, without precedent knowledge of what had taken place in Boston, is bewildering and incomprehensible; but, once informed that the writer was treating of a quasi-bank in actual operation, the archaic use of the word "Severals" explains itself, and we can see that to contemporaries its meaning must have been as clear as would be to us such a title as "Particulars concerning the First Boston Bank." To Mr. Trumbull the interpretation was obvious, and his familiarity with the literature of the period made it easy for him to understand the involved and ambiguous sentences of the writer. He saw at a glance the extraordinary value of the pamphlet, and he embodied a description of it in the Council Report of the American Antiquarian Society in October, 1884. This report was separately printed under the title *First Essays at Banking in New England*, and the paper stands as a rec-

<sup>1</sup>In substance the same as a paper read at the April meeting, 1903, of the American Antiquarian Society.

ognized authority to which one must turn for information concerning the earlier experiments in the way of banking in the region embraced within its title.

Mr. Trumbull was of opinion that *Severals relating to the Fund* must have been written by the Rev. John Woodbridge; and in his report, after discussing the question of authorship, he devoted himself to a review of the introductory essay in the tract, which was descriptive not only of the Fund itself, but also of certain preliminary attempts in the same direction which led up to it. One of these, begun March 30, 1671, was carried on in private for many months, and was for some reason stopped just as the promoters were about to publish their prospectus and emit what they called bills. The description of the Fund was followed in the original pamphlet by a set of rules and forms, the same in substance, the author says, as those communicated by him to the Council, which were on file when he wrote, in the Records of the General Court. He further states that it was his first intention, when he was engaged in the composition of the tract, to "place all the Rules relating to the *Fund* at the end of the *Narrative* and then the debates that are carried on concerning Commerce." For some reason he abandoned the plan of giving all the rules, and changed the order of his materials, so that he felt called upon to explain that they would "now fall in mixt and this Sheet be closed with some Rules, most needful to be first known, for the directing those in Company, in their motion."

That which has been preserved for us of *Severals relating to the Fund* is the first sheet, eight pages quarto, containing the "Narrative" of which Mr. Trumbull made such good use, but also having at the end those Rules which the author considered "most needful to be first known." We may congratulate ourselves, therefore, that we have at our command to-day what was unquestionably the most valuable part of the pamphlet.

The story of this "Bank" necessarily came under my observation and study when I was at work upon *Currency*

*and Banking in the Province of the Massachusetts Bay.* The Narrative portion of the pamphlet had been Mr. Trumbull's theme. Where he had worked, there was but little chance for a successor. It was to the Rules, therefore, that I turned, and from their analysis made up the following brief account of the methods of the "Bank," so far as they might be inferred from the short extract therefrom at my command:—

The portion of the pamphlet which has been handed down to us ends with a statement of the rules relating to the fund, the styles of entries, the forms of pass-bills, etc. These rules, which are technical and deal with the methods of issuing the bills and keeping the accounts of the depositors, are not given by Mr. Trumbull, but they evidently contemplate the establishment of a sort of clearing house where dealings between depositors could be adjusted by transfers of accounts. . . . No trace of the existence of these two experiments, [March 30, 1671, and September, 1681], the second only of which was carried to an issue of bills, has been noted by any other student of the times. . . . It is not probable that the experiment amounted to anything.

The publication of the twelfth volume of *Suffolk Deeds*<sup>1</sup> entirely upsets the foundation upon which the concluding sentence of the above quotation is based. While I am not disposed to give the cumbrous system devised by the author of *Severals relating to the Fund* any great standing, or to advocate for it any claim for conspicuous success, still the discovery of six mortgages in this volume running to the "Fund," executed between September, 1681, and February, 1683, reveals the fact that the attempt was squarely made to meet the want in the Colony produced by the scarcity of a metallic currency, through the establishment of interchangeable credits, and entitles the Fund to claim the position of leadership in the series of attempts to furnish some relief through credits based on land for the existing difficulties caused by the inadequacy of the circulating medium.

The examination of these mortgages naturally leads to

<sup>1</sup>The publication of a volume in this series is not likely to attract the notice of the general reader. It is but just, therefore, that I should acknowledge my obligation to Mr. H. H. Edes for calling my attention to the presence in the twelfth volume of matter bearing upon the questions in which I was especially interested.

a critical review of the language used in the abridged description of the rules just quoted. With the light thrown upon the subject by these instruments, I should not be inclined to call those who opened accounts in the Fund depositors, but should adhere to the language of the author and of the documents, and call them "Acceptors" or "Acceptors of Credit."<sup>1</sup> The theory advanced by me that the bills put forth were the notes of individuals must fall to the ground, and Mr. Trumbull's statement that "a bank of Credit was established and began to issue bills in September, 1681," must be permitted to stand, qualified, however, by the important limitation that the bills issued were what are called in the tract "change-bills," and were not in the nature of a denominational currency, subdivided into amounts adapted for general circulation in place of coin.

The mortgages given to the Fund contained a power of sale, which is a feature of some interest; and it is probable that they are, as a whole, of enough importance to justify their separate enumeration. The following list gives the name of each mortgagor in the Suffolk Registry, the date of the mortgage, and the page of the record in Volume XII.:<sup>2</sup>

Name.	Date.	Recorded Vol. XII.
Daniel Henchman	September 14, 1681	p. 103
Daniel Henchman	January 3, 1681 [82]	p. 142
William Sumner	February 25, 1681 [82]	p. 150
Thomas Hunt	May 22, 1682	p. 213
John Brooking	August 4, 1682	p. 255
William Clough	February 22, 1682 [83]	p. 333

The instruments all ran to trustees of the Fund, three being to Hezekiah Usher and John Walley, and three to

<sup>1</sup>It is evident that my statement (p. 6, vol. i., *Currency and Banking*), to the effect that the author says that this experiment had never been tried is based upon a misinterpretation of his language.

<sup>2</sup>The Middlesex Registry (vol. viii. p. 272) furnishes another mortgage to the Fund. The grantor was John Starkie; the date, April 20, 1682. The grantees, Hezekiah Usher and Adam Winthrop, trustees, etc. In the margin the Register noted "John Starkie to the Fund." The consideration was "in firm or credit," etc. This mortgage furnishes no facts which would modify the conclusions drawn from the Suffolk mortgages.

Hezekiah Usher and Adam Winthrop, the grantees being described in each instance as "Merchants, Trustees for the Acceptors [or the Acceptors of firm or Credit] in said Fund."

It is to the consideration expressed in the mortgages that we should look for a description of just what the grantor received from the Fund, and, if we examine them in chronological succession, we ought to be able to ascertain through the language used in this clause whether there was during this period any indication of a change of feeling on the part of the public towards the enterprise which would justify the promoters in the belief that they might ultimately extend their operations. The consideration of the first mortgage was defined to be "Fifty pounds Credit as money to bee given him [the grantor] in the Fund of sd place according to the Rules thereof." In the mortgages of January 3, 1681 (82), and February 25, 1681 (82), the words used are so many pounds "in firm as money to bee granted him on demand in the Fund of sd place according to the Rules thereof." The mortgages of May 22, 1682, and August 4, 1682, add after the word "firm" the words "or credit," so that they read "in firm or credit as money"; and the expression "to be sprung him" is substituted for "to be granted him." In the last mortgage the adjective current, or "currant," as it is spelled in the instrument itself, is inserted before money, making the reading "in firm or credit as currant money," and the concluding part or sentence is "to bee sprung him or passed to him as demanded in the Fund at sd place according to the Rules thereof."

It will be seen that the grantors received from the Fund only a credit upon the books of the company, and that in defining this credit there were successive changes, the phrase in the first mortgage being "credit as money," which was altered to "in firm as money." This, in turn, became for a time "in firm or credit as money," and was finally converted into "in firm or credit as currant money." The "to bee granted him," originally used, was changed into "to bee sprung him," and that again into "to be sprung

him or passed to him." These changes of phraseology do not seem to have any special significance. One might conjecture that different persons drew up the mortgages at different periods, or, perhaps, that in the prosecution of the business the use of such technical terms as "firm" and "sprung him" had grown up, but, in any event, it is clear that in the last mortgage, as in the first, the consideration was merely a book credit, to be used according to the rules of the Fund. Nor shall we find, when we come to the examination of the proviso in the mortgages where in the terms set forth as to the method in which the grantor may redeem his property there is a similar opportunity to test this question, that there will be any occasion to alter this conclusion. If there is evidence of public approval of the scheme, it is to be sought for elsewhere.

The *habendum* clause varied slightly in the different mortgages, but its substantial features were as follows:—

To have and to hold sd land with its privileges and appurtenances unto the Trustees and their successors, in trust as afore, according to sd Rules.

Following this came a warrant such as we use in a quit-claim deed, which was succeeded by a power of sale. The language used in one of the mortgages will stand for all. It was:—

doth warrant sd land and premises agt all claiming under him to remain as a depositum for so much Firm as shalbee sprung him as afore with the interest due thereon unto said Trustees and successors and to bee sold by them according to sd Rules for the satisfaction thereof if cause bee, and Moreover will confirme such Sale at the charge of the Grantee if desired, and also will deliver up the possession of sd land and premises unto said Trustees and Successors or the purchasers thereof or Creditors of said Fund [etc.].

This clause is practically the same in all the mortgages, with the exception that the word "firm" is not used in the first, the consideration there being credit "as money." The premises in that mortgage were to remain as a deposit "for sd credit or so much thereof as shalbee taken up."

In the proviso the payment required to be made by the grantor of the first mortgage was to be "either in Fund credit or currant money." Then followed three instruments in which the language used was "in sd Firm or currant money." These were evidently controlled by the manner in which the consideration was expressed. There remain two other mortgages. In one of them the grantor might redeem "in sd Firm or goods suitable for Returns to the Merchant as they will feteh in Silver, or currant money according to the rules of sd Fund and so as the Credit thereof bee not strained," and in the other "in such Species and time as hee by writing under his hand at the springing thereof shall pmiss to do."

Upon balancing the "Accompt" in the Fund, provision was made in the mortgage for its discharge. The grantor was entitled to have "the Director thereof for the time being or his Deputy as injoyned by sd Rules" testify to the same; and to have the Deed of Sale, as the mortgage was termed in the instruments, delivered up and made void upon record. In some of the mortgages it was provided that this should be done by "a Release," or in some instances "a discharge, thereon, to make it void on record."

Three of these mortgages were thus discharged of record by Daniel Henchman, director: that of William Sumner, June 18, 1684, by discharge acknowledged June 21, and entered at the Registry June 24, 1684; that of Thomas Hunt, June 20, 1684, and apparently entered simultaneously for record; and that of John Brooking, discharged the 16th of April, 1685, and entered of record the same day.

In all these cases the discharge was made by indorsement on the mortgage, the certificate of Henchman being that Sumner and Hunt had balanced their accounts in the Fund, while in the case of the Brooking mortgage the settlement was effected by transfers between the account of the mortgagor and that of another acceptor of credit, which is set forth in Henchman's certificate in the following language:—

John Brooking within named having his accept in the Fund as Depositor balanced since his decease by the accept of Timothy Thornton [etc.].

Thornton must of course have been an acceptor of credit. The trustees, by virtue of the office which they held, indicated their approval of the scheme, and must also be classed as acceptors. This gives us four acceptors who were not mortgagors. It is possible, of course, that they may have been simply acceptors, and not borrowers of credit; but the absence of their names from the list of mortgagors might be explained by their obtaining credit through what the author of *Severals relating to the Fund* would have called "Merchandise-Lumber"; that is, a pledge of merchandise, the word "Lumber" as used in this connection being a corruption of Lombard, and deriving its figurative sense from its association with the famous London street of that name.

The various phrases and clauses quoted from the mortgages require a glossary for their perfect understanding. The word "firm" is used apparently as a substitute for fund, so that the expression "so many pounds in firm" means probably that number of pounds credited the grantor on the books of the Fund, and the words "or credit" which generally follow are merely explanatory.

The "springing" of the "firm" evidently is intended for the granting of the fund credit, the process being described in the different mortgages as the granting, the springing, or the passing of the firm or credit.

The foregoing analysis of the mortgages has carried us far enough along to enable us to recur to the rules and the extracts from the Proposal given by the author of *Severals relating to the Fund*.<sup>1</sup> Having knowledge of the manner in which credit was obtained in the Fund, having before us these examples in which the consideration given was "Credit as money," and having seen how one mortgage

<sup>1</sup> *Severals relating to the Fund* is the first of the reprints given in *Tracts relating to the Currency, 1682-1720*; and the rules discussed herein will be found there.

was discharged by transfers of account in the Fund, we can see that the author was true to the principle which he derived from Potter's *Key of Wealth*, that credit founded on land security was better than that having money as a base, "wofull experience" having proved banks founded on the latter "to be subject to rupture," and that the Fund was actually engaged "in passing forth" such credits "as a medium to enlarge the *Measure of Money*." Moreover, we are in better condition to interpret the rules appended to *Severals relating to the Fund* than was possible before this examination, and can afford to adopt conclusions which are, perhaps, inevitable deductions from the language used in the tract, but which we should, nevertheless, have hesitated to do except for the information now in our possession.

The prospectus of the scheme—substantially the same, as has already been said, with that submitted to the Council—was called by the author a Proposal, and opened in the following words:—

*A Proposal for erecting a FUND of Land; by Authority, or private Persons in the nature of a Money-Bank; or Merchandise-Lumber, to pass Credit upon by Book-Entries; or Bill of Exchange, for great Payments: and Change-bills for running Cash. Wherein is demonstrated,*

*First,<sup>1</sup> The necessity of having a Bank, to enlarge the Measure of Dealings in this Land, by shewing the benefit of Money, if enough to mete Trade with; & the disadvantages, when it is otherwise.*

*Secondly,<sup>2</sup> That Credit pass'd in Fund, by Book & Bills, (as afore) will fully supply the defect of Money. Wherein is related, of how little value Coin, as the Measure of Trade, need be, in itself; what Inconveniences subject to. The worth a Fund-Bill, or Payment therein, is of: & not of that Hazard.*

There were two more sections in the Proposal. The pamphlet was folded in quarto, eight pages to a sheet, and the author says that these two sections were "pass'd to the 2d Sheet pag. 9." The Rules began at the bottom of the seventh page, and were continued on the eighth, this being the last page in the fragment of the pamphlet in the

<sup>1</sup> *Tracts relating to the Currency of the Massachusetts Bay, 1682-1720*, p. 5.

<sup>2</sup> *Ibid.*, p. 7.

**Watkinson Library.** These two sections are therefore lost to us; but the portion of the Rules on pages seven and eight will help us to the understanding of the language used in the mortgages, while by aid of those instruments we can interpret the rules.

The six mortgages on record covered in their execution dates from September 14, 1681, to February 22, 1682-83, while the discharges prolong the period during which we can find traces in the Registry of activity in the company until April 16, 1685.

Doubtless, the missing portion of the Rules contained details as to the organization of the Fund. Until the second sheet of the pamphlet shall turn up,<sup>1</sup> we must rest content with the knowledge upon this point to be derived from the mortgages, which is, that there were at least three trustees, two of whom were apparently to appear as grantees in each mortgage, and there was a director of the Fund, who was entitled to a deputy. It is doubtful if a determinate title for the company was at any time absolutely agreed upon. It is spoken of in the Rules as "The Fund," but creditors are instructed to open their accounts in ledger with "The Fund at Boston in N.E." This latter may therefore be accepted as the one under which suit would have been brought against the company if circumstances required or permitted it to be done.

The first of the expressed purposes of the Fund of Land or Merchandise-lumber was "to pass Credit by Book Entries." We have seen how this was done in the discharge of the Brooking mortgage, and it would not be difficult to conceive of much more extensive application of this process. The writer, if we may accept Mr. Trumbull's attempt to fill in the missing words at the foot of the first page of his pamphlet, disclaims knowledge of any similar attempt elsewhere to make use of bank credit in the manner suggested by him,

<sup>1</sup>The conjecture naturally arises, Was the second sheet ever issued? The important features of the Proposal and the Rules were grouped on the first sheet. Matters of less consequence were postponed. Was not the purpose of this to make the first sheet available at once for a prospectus? If so, the publication of the second sheet might have ceased to be of importance.

yet it would seem as if in the course of his travels he must have heard of the Bank of Amsterdam. Perhaps, after all, he is justified in saying what he does; for the bank credit in Amsterdam was founded upon a coin or bullion deposit, while his idea was to make use exclusively of land and merchandise as a basis for credit.

I have said that the credit established in the Fund was to be passed by book entries. The Proposal also indicates two other methods of passing credit; namely, "Bills of Exchange for great payments" and "Change-bills for running cash." When the writer speaks of Bills of Exchange and Change-bills, or, as he does in the Rules, of Pass-bills, we stand in need of a definition of these terms, otherwise we may be in danger of attaching a meaning to the words foreign to his intention. It is not conceivable that foreign exchange could have been founded upon credit in a bank without capital and without deposits of coin or bullion, and the almost necessary conclusion is that the author's bill of exchange was merely a change-bill of large size. How it would be possible to draw such a distinction as this will be seen if we turn to the Rules, and ascertain what change and pass bills were.

Let us suppose that a borrower of fund credit has mortgaged an estate, and has had "sprung to him" the "firm or credit as money" upon the books of the Fund. He wishes now to make use of the fund credit. The Rules instruct him that the credit is "not to be strained, nor passed but among Fundors." Within these limits he is prepared to use his credit; and, desiring a change-bill, he makes out the equivalent of a counter-check in modern use, in the following words: "Charge my accompt, fol. —— Debtor, —— for Change-bill now received, Number ——." The form for the bill which would be issued to him is not given, but its method of use among the funders is indicated. The borrower meets one of his fellow-acceptors to whom he has occasion to pay a sum less than the face of the bill. The acceptor to whom the payment is to be made is instructed, after having made sure that everything connected

with the bill is correct, to enter on it the date of the transaction, his name, and the amount which is transferred to him, this process to go on with each payment to each acceptor until the credit on the change-bill is exhausted.

The acceptor who has thus had transferred to him credit in Fund through a change-bill is also instructed to open an account with "The Fund at Boston in N.E." In making his charges on his ledger for acceptor's credit thus transferred, he is required to enter the date of the transaction; a description of the change-bill, including the name of the person to whom it was issued; the number of the bill; the amount of the credit transferred to him; and, if his acceptance should exhaust the credit on the bill, it was apparently his duty to take it up, and make a special entry to the effect that the bill was taken in.

We might say that the change-bill was a letter of credit directed to the fundors, the difference in its circulation from the modern letter being that, while it is required to-day that each advance shall be made upon an order or bill of exchange drawn on the house issuing the credit, this formality was dispensed with among the patrons of the Fund. When the charges of the acceptor against the Fund became of enough importance to call for a credit entry, the fundor simply presented a statement of account at the office of the Fund, accompanied by such change-bills as he had taken up, and upon making a written demand in the following words: "Place to my credit in Fund, fol. — the sum of — being for the foregoing payments," he received credit in his account in the Fund. It is obvious that, unless each acceptance charged in the statement of account was accompanied by the corresponding change-bill, there would be no opportunity to verify the statement when the demand was made.

Credit could be transferred in the Fund, either at the office or elsewhere, without the necessity of taking out change-bills. This was accomplished through the pass-bill, which consisted in an order on the manager to make the transfers, couched in the following language:—

"Place of my credit in Fund, fol. —— to Account of ——  
the Sum of ——."

The change-bill and the pass-bill would seem to have contained within themselves all the essentials for the transaction of business in the Fund. We may conjecture, therefore, that the bill of exchange for great payments was a mere suggestion which occurred to the projector as he prepared his Proposal, which was perhaps abandoned when the plan was put in actual operation.

It will be seen that we have here a system of interchangeable credits in a concern which had neither capital nor deposits. These credits might be used in a limited way between persons who had confidence in each other and faith in the judgment of the managers of the Fund. The cumbersome nature of the details connected with the change-bills would at first glance seem to have been fatal to their success. Yet, if the promoters of the Fund had based their credits upon actual deposits of coin instead of on land and merchandise, who shall say that in their small way their success might not have rivalled that of the Banks of Venice and of Amsterdam? Nearly all the coin of that day had been tampered with. The standard guinea, measured in the filed, clipped, and sweated silver then in circulation, rose in London to upwards of 30s. Bank credits in Venice and Amsterdam were at 20 per cent. premium, which is but another way of stating that standard coins were worth 20 per cent. more than the light-weight coin in circulation. How these bank credits were availed of is not clear; but they must have had some representative form outside the bank in the shape of checks or orders, or, if we adopt the technology of *Several's relating to the Fund*, change-bills or pass-bills, which could be made use of. Have we here a suggestion of how this was done?

In the absence of more complete knowledge as to those who on personal security negotiated loans of credit in the Fund, it is impossible to conjecture how far the business men of Boston joined in the enterprise; but the fact that some of these mortgages were kept alive for nearly four years shows

that the acceptors found some use for their credit, and would indicate that the scheme must have met with support from sources not specifically set forth in any evidence at hand.

"The Fund at Boston in N.E.," so long as we were dependent upon *Severalals relating to the Fund* for our knowledge of it, had but a shadowy hold upon our senses; but, vitalized by the life infused in its veins through the discovery of these mortgages, it stands forth in full vigor among the pioneers in the financial experiments of the world. More than that, the organization of a bank in Boston in 1686, by John Blackwell, with the approval and support of the Council, the character of which was analogous to the Fund, comes too close after the last sign of life in the latter not to be in itself evidence of some sort of success on the part of that experiment, and strongly asserts the right of the Fund to claim that it was the prototype of the proposed Land Bank of 1686, of the similar project in 1714, of the Connecticut Land Bank in 1732, and of the well-known experiment made in 1740.<sup>1</sup> Whether the change-bill of 1681 had given place in 1686 to the idea of a denominational paper currency for circulation among a people not yet accustomed to bills of public credit, we do not know; but, apparently, it was the intention to make use of such a medium in payments of over 20s. In 1714, however, over twenty years' use had familiarized the public with paper money, and the proposed bill was then to be accepted by partners in the bank for the number of shillings expressed on its face. It is probable that this simple method of avoiding the intricate process of circulating quasi-letters of credit had already suggested itself as early as 1686. At any rate, it is clear that the elaborate and ostentatious organization of Blackwell's Bank was but an enlargement of the functions of the Fund.

ANDREW MCFARLAND DAVIS.

<sup>1</sup>These projects and experiments are described in the second volume of the present writer's *Currency and Banking in the Province of Massachusetts Bay*.

## THE MASSACHUSETTS BUSINESS CORPORATION LAW.

THE Massachusetts Business Corporation Law, enacted by the legislature of 1903, has been the subject of discussion and criticism by no means limited to the State. The charge has been made that in the enactment of this code the conservative State of Massachusetts has at last surrendered to the demands of promoters, and has joined the States which vie with each other in bidding for the privilege of giving charters to irresponsible corporations. It is the purpose of this article first very briefly to point out the causes leading to the enactment of a new corporation law in Massachusetts, and then to discuss those features of the law which distinguish it from the more recently enacted corporation laws of other States and to indicate its probable influence upon the organization and legislative regulation of industrial corporations.

The fundamental reason for the enactment of the new law is to be found in the defects of the previous legislation of the State relating to business corporations. The ground-work of this legislation had survived nearly a hundred years since the earliest legislative regulation of such forms of organizations. Successive amendments permitting incorporation without special act of the legislature, the payment of stock in property as well as in cash, and finally, as to certain classes of corporations, an unlimited capitalization, were obvious concessions to the demands of developing business methods. These amendments left the law, however, in form a mere patchwork, and in substance neither a real protection to stockholders or investors nor sufficiently liberal in some respects to attract the incorporation of business enterprises organized and financed in the State. During the past five years the advantages offered by the more liberal corporation laws of other States have been availed of to a constantly increasing extent

until in the year 1901 two business corporations were organized under a foreign charter for the purpose of doing business in Massachusetts for every such corporation organized under the laws of the State.

Business men felt a certain degree of resentment in being advised to organize their corporations outside of their own State, and a movement was set on foot in the early months of 1902 to secure, if possible, some relief. Under a legislative resolve passed in that year, Governor Crane appointed a special Committee on Corporation Laws, which, after many public hearings and a very careful investigation of the subject, reported to the legislature in January, 1903, the draft of a Business Corporation Law which was subsequently enacted without substantial amendment, with the exception of one provision relating to taxation.

It was the avowed purpose of the special committee upon which much of the responsibility for this new law must rest to draft a law which would permit, under conditions generally as favorable as could be secured under a foreign charter, the incorporation under Massachusetts laws of business enterprises financed by Massachusetts capital. The new law certainly was not designed to increase the revenues of the State. Under the old law Massachusetts collected from both business and public service corporations a larger franchise tax for the year 1901 than was collected in that year from the same source by any other State except New York and New Jersey.<sup>1</sup> It can be stated with equal positiveness that it was not the intention

<sup>1</sup>The amounts received in 1901 from the taxation of corporate franchise of business and public service corporations, as reported by the Massachusetts Committee on Corporation Laws, *Report*, pp. 299-303, are the following:—

New York . . . . .	\$4,966,680.93
New Jersey . . . . .	1,633,074.19
Massachusetts*. . . . .	1,271,316.23
Pennsylvania . . . . .	1,005,184.23
West Virginia . . . . .	322,078.50
Maine . . . . .	39,925.00

\*The receipts from business corporations reported by the Committee on Corporation Laws were \$331,434.38. The balance represents receipts from public service and other corporations reported by the Tax Commissioner. *Report*, 1901, p. 8.

tion of the framers of the new law to place Massachusetts in the position of being a competitive rival for the business of incorporating enterprises financed and doing business exclusively outside of the State, or of drafting a law "which will be favorable to the organization of large corporations popularly known as trusts."<sup>1</sup> How far Massachusetts has succeeded in adopting a corporation code which, on the one hand, will attract the incorporation of the legitimate business enterprises in which its citizens are interested, whether designed to do business within or without the State, and yet will discourage the organization of inflated promotion schemes and adequately protect both the stockholder and creditor, can best be determined after considering in some detail those provisions of the new law which are particularly designed to accomplish these ends.

Although the subject of the taxation of corporations occupied by far the largest share of the consideration of the special committee, the recommended changes in the existing law are few in number. The existing theory, of a tax levied by the State indirectly upon the stockholder on the market value of his stock, has been retained, not because the theory upon principle commended itself especially to the committee, but for the practical reason that any other rule which could logically be adopted would very largely increase the amount of taxes paid by more than half of the existing Massachusetts corporations. The legislature so changed the recommended draft of the new law as to enable the organization of Massachusetts corporations for the purpose of doing business outside of the State without being subject to undue taxation, and also to make possible the organization of corporations to hold the securities of Massachusetts companies. The legislature also added a limitation of the maximum value of the taxable corporate franchise to an amount not exceeding 120 per cent. of the actual value of the tangible assets of the corporation. While this amendment will reduce somewhat in the first instance the revenue of the State from its

<sup>1</sup> Report of Committee on Corporation Laws, pp. 24 and 61.

corporations, it was believed to be necessary in order to retain in the State some of its most successful corporations, and to attract business enterprises which otherwise might hesitate to incorporate under a Massachusetts charter for fear of the operation of an unlimited tax upon that portion of the value of their capital stock representing intangible assets. The provisions of the new law relating to taxation are, therefore, a re-enactment of the former laws, with amendments which will prevent double taxation and place Massachusetts as nearly as possible on a basis of equality with other States in this particular.

Corporations organized under the Business Corporation Law are permitted the largest degree of freedom in conducting their business consistent with a sufficient protection of the interests of minority stockholders. All corporate action can be taken upon the affirmative vote of a majority in interest of the stockholders, except such action as may affect the value of the stock. It should be noted, however, that the creation of a new class of stock, or its sale, lease, or exchange, requires the concurrent vote of two-thirds of the stockholders. At organization almost any scheme regulating the classification, powers, and voting rights of the stock of the company, may be lawfully adopted. The stockholders' and directors' liabilities are reduced to correspond in the main with those prevailing in most of the other States. The requirements of the former law relating to the annual filing of certificates of condition by domestic and foreign corporations have been retained. The machinery by which stockholders may secure information as to the doings of the corporation has been made more effective. It was the purpose of the committee to draft a law in this particular which would enable any stockholder who, in good faith, desired information, to secure it without delay or unnecessary expense, while, on the other hand, the law would protect the corporation from inquisitive annoyance, instigated perhaps by hostile motives.

In relation to foreign corporations, Massachusetts has

followed the lead of several of the Western States in attempting to place upon an equal basis, so far as possible, the corporations organized under its own laws and those organized under foreign charters. Rather as a means of demanding recognition than for the purpose of securing a larger amount of revenue, an excise tax has been imposed upon foreign corporations. As this tax amounts to only one-hundredth of one per cent. upon the authorized capitalization, and as corporations are permitted to deduct from this amount whatever taxes are locally paid by them, the tax will practically affect those corporations only which under the old law conducted their business in whole or in part in the State without directly paying any tax whatever in return for the privilege which the State as a matter of comity extended to them. As the maximum tax to be paid is limited to two thousand dollars, it is not expected that even the larger industrial corporations will be deterred from doing business in the State. It is believed that with the imposition of this nominal excise tax will come an increased degree of responsibility from the State towards foreign corporations; and, inasmuch as no action can be maintained in its courts by foreign corporations until this tax is paid and the annual certificate of condition filed, it is hoped that the new law will inspire a greater respect for the legislative requirements of the State than has been evinced during the past few years by such corporations.

From an economic point of view these features of the Business Corporation Law are overshadowed in interest by its provisions relating to the issue and payment of capital stock. The attacks which have been made upon the new law have been focussed upon the fact that it permits the unlimited capitalization of intangible assets,—“wind and water” is the more popular expression among the critics of the law. It may, then, be profitable to consider this provision of the new law in some detail.

Logically there are the three following theories upon which statutory provisions relating to the payment of capital stock by property conveyed to the corporation can be based:

1. That the incorporators are the judges of the value of property to be conveyed to the corporation in payment of stock, and that the State has no interest or duty in the matter except to create a liability for fraudulent action. This is the most generally accepted theory of the more recently enacted corporation laws in this country.

On this theory, in the absence of actual fraud, the judgment of the directors is conclusive. Even if fraud can be proved, which has only rarely been accomplished, the title to the stock in question cannot be attacked; and the only remedy is a personal one against the fraudulent directors. The practice, so widely advertised in connection with the receivership proceedings of the United States Shipbuilding Company, of electing irresponsible dummies to protect the parties to fraudulent proceedings from any danger of personal liability, is by no means unusual. The most obvious defect in this legislation is that the facts concerning the issue of stock for property are hidden in the records of proceedings of the board of directors to which the stockholder or prospective investor has no access. He is unable to form an independent judgment as to the value of the property of which his stock represents a fractional interest. He is guided in making his investment solely by the more or less misleading statements contained in a prospectus and by the equally fictitious quotations which manipulation in the stock market can give to such securities when issued and listed on a stock exchange.

2. The second theory relating to the payment of capital stock in property is that the issue of stock so paid for must be controlled and limited by the State. This theory has been logically adopted in the existing legislation in Massachusetts, so generally and justly commended, relating to the issue of securities by public service corporations. It has been asserted that it governed also the issue of stock of business corporations under the law now repealed by the Business Corporation Law. But this assertion would not be made by any one familiar with its administration.

The earlier law provided that capital stock might be is-

sued for property to the extent sanctioned by the Commissioner of Corporations. This commissioner soon found it necessary to establish certain rules in regard to the subject. One was that no stock could be issued for patent rights or other intangible interests. This rule was conservative, and worked substantial justice in a majority of cases. In some instances, however, patent rights have proved to be very substantial assets from the point of view of the investments which they represent and the dividends which they can earn. In at least one case a well-established business in Massachusetts was compelled to secure a special act of incorporation from the legislature in order to make possible a partial capitalization of its very valuable good will.

As the statute provided no machinery, and as no appropriation was allowed, for securing a fair appraisal of the tangible property to be conveyed to the corporation in payment of its stock, the Commissioner of Corporations has always required a sworn statement to be made as to the value of property for which it is proposed to issue stock. This statement has been accepted by the commissioner, in the absence of further information, as a basis of his appraisal. The practical effect of this practice has been to enable incorporators to fix their own valuation of property for which stock is issued, as is the almost universal rule in other States. That the former law was unsuccessful in guaranteeing the success of corporations organized under its provisions is well indicated by the fact, as the writer has been informed, that nearly 75 per cent. of the corporations which have been reported insolvent to the United States courts for the district of Massachusetts during the past three years have been organized under laws of that State. It may fairly be said, therefore, that under the former law the State in attempting to be sponsor for the solvency of private corporations organized under its provisions failed signally to accomplish the intended results. There can be no middle way. The State must either undertake an examination by its own experts of the value of the prospec-

tive assets of the corporation or it must not pretend to do anything of the kind.

There is much to be said in favor of such an appraisal in the case of public service corporations. The State in this case has granted valuable franchises, and in many cases protects the corporation from disastrous competition. It may well be argued that in return it is the duty of the State to see to it that these franchises are not sold to the investing public at an unfair valuation. There is no such reason for protecting the investors in business corporations where competition is unlimited and the only right given by the State is the right of existence. In this class of corporations the State cannot afford to undertake for the benefit of prospective investors—many of whom, perhaps, are not its citizens—an appraisal for which it will be held responsible. If all the facts necessary to enable individual investors to exercise their own judgment as to the value of the securities of private corporations are required and enforced by suitable legislation, the State has done all that can be required of it.

3. The third theory, and the one adopted in the new Massachusetts law in regard to the duties of the State in regulating issue of stock for property, is that, so long as incorporators are not acting fraudulently, they may capitalize any property, tangible or intangible, at any amount they desire, provided that no stock may be issued at or after organization until a statement has been prepared and placed upon public records, showing the amount of stock which has been issued and the exact manner in which it is paid for. If the payment is in cash, the facts will be so stated; if in property, a description of the same must be included in the statement, which will be sufficient for purposes of identification; if stock is to be issued for services or expenses, their nature or extent must be set forth. On this theory prospective stockholders and creditors deal with the corporation at their own peril. The State does not assume either to give its sanction to a "blind pool," as it may be said to do under the first theory mentioned,

or to guarantee, directly or indirectly, the value of the property for which capital stock is issued, as it may be said to have done under the former law.

Publicity, therefore, and not paternalism, is now adopted in Massachusetts as its remedy for the evil of over-capitalization. A public statement sufficient to acquaint prospective stockholders with the facts concerning the property of which they may become part owners is, under the new law, a condition precedent to the legality of stock issued. Directors are liable, as in other States and as they were liable under the former law in Massachusetts, for making statements which they know to be false. This protection, however, is merely secondary. If investors and speculators purchase, or make advance payments on a speculative purchase by a broker, of a fractional interest in property which is described to them with sufficient detail for purposes of identification, they have themselves to blame if they pay too high a price for it. And when the investor has thoroughly learned his lesson, which can only be taught by experience, he will be able, with the assistance of legislation based upon the theory now adopted by Massachusetts, to make a search of the facts relating to the value of stock in which he is interested, with much of the same thoroughness which he now shows in examining the title to real estate.

At least for the present, the affirmative requirements of the new law relating to publicity, both in regard to the payment of capital and in the matter of annual statements of financial condition, will probably deter the incorporation in Massachusetts of the larger industrial organizations. The practical prohibition against the organization of corporations to hold securities other than those of Massachusetts companies, while not primarily designed for this purpose, is another very practical reason why the very large industrial corporations will continue to organize outside of that State. Finally, the requirement of the minimum State corporate tax of one-tenth of one per cent. of authorized capital, without allowing, as is the practice in many of the so-called "corporation States," very large deductions

for enterprises of large capitalization, in itself is sufficient to discourage the organization of such corporations. It was estimated by the special committee<sup>1</sup> that the United States Steel Corporation would, under this provision of the Massachusetts law, pay an annual tax of over six hundred thousand dollars as compared with its present annual tax in New Jersey of less than sixty thousand dollars.

The effect of the new law in attracting the incorporation of new companies and upon the revenues of the State cannot be definitely determined until it has been in effect for at least a year. The results already shown are gratifying to its friends. The following table indicates the number and the total capitalization of corporations organized under the Business Corporation Law from August 1 to November 1, 1903, with the amount received by the State for organization fees. The figures for the corresponding period in 1902 are also given as a basis of comparison:—

	<i>Number of Corporations.</i>	<i>Total Capitalization.</i>	<i>Fees.</i>
1902 . . . . .	44	\$1,015,800	\$550
1903 . . . . .	200	\$12,481,100	\$3,953.73

Of the newly organized corporations, one is capitalized for \$1,500,000, one for \$800,000, four with a capital of \$500,000, six with a capital of \$250,000, and the remaining ranging down to the minimum of \$1,000. In November an industrial corporation was incorporated with a capitalization of \$5,900,000 to take over, under a plan of reorganization, the assets of a large industrial business operating chiefly in Massachusetts, formerly incorporated with a larger capitalization under the laws of New Jersey.

These figures show that the new law has already become acceptable to the organizers of the smaller partnership corporations. That more corporations with a larger capitalization have not already been organized is not surprising in view of prevailing financial conditions and the probable unfamiliarity of the business interests of the State with all of the advantages of the new law.

<sup>1</sup> *Report of Committee on Corporation Laws*, p. 63.

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It will probably never be possible to enact a corporation law which will entirely solve the problem of giving sufficient freedom to the promoters of the enterprise, adequate protection to its stockholders, and an equitable tax to the State which is responsible for its creation. It certainly will not be possible to frame such a code in this country until a national law can constitutionally be enacted. In emphasizing the necessity of publicity in relation to the question of capitalization, and the opportunities of regulation by taxation, in the case of foreign corporations, Massachusetts has, by the enactment of its Business Corporation Law, at least pointed the way which must be followed in future legislation.

GROSVENOR CALKINS.

BOSTON, MASS.

## NOTES AND MEMORANDA.

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### THE VARIATION OF PRODUCTIVE FORCES: FURTHER COMMENT.

I. IN the ordinary enunciations of the law of diminishing returns two statements are combined, the separation of which would be distinctly an aid to precision of thought and of writing. One of these is that land is, in general, subject to diminishing returns. The other is the explanation of what the term "diminishing returns" is understood to imply. If the suggestions made by Professor Bullock in this *Journal* in his article of August, 1902, be accepted, all hope of separating the two statements will be lost. In the opinion of the writer that would be a misfortune. The words used, "diminishing returns," have in themselves no kind of exclusive connection with land. The writers who discussed diminishing returns during the period when that term was acquiring currency in economics were, it is true, contemplating the agricultural problem exclusively in their use of the term. But this is not sufficient to bind us to limit the application of a general term for all time. Numerous modern writers have found advantage in applying the conception, and the phrase, to cases where they were appropriate, though land have no special connection with such cases. In the number of the *Journal* for February, 1903, this point of view is reflected in Professor Carver's note commenting on Professor Bullock's article. The present writer's excuse for advertizing to the subject is that he was responsible for an attempt to attract attention to the point in question some years ago. The particular definition of diminishing returns then offered<sup>1</sup> may be clumsy, but that does not touch the ques-

<sup>1</sup>Cf. *Dictionary of Political Economy*, vol. II., s. v. "Law of Diminishing Returns."

tion of the propriety of a definition setting forth the conception in a form in which it could be applied to all kinds of cases where it is realized. The transition from one point of view to another, when passing from the consideration of agricultural to that of manufacturing conditions, to which Dr. Commons refers in his chapter on "Diminishing Returns and Rent," is the source of some confusion. If I understand his purpose, Professor Bullock desires to remove this liability to confusion as one result of his proposed change of classification. Might it not be avoided by handling the conception of diminishing returns apart from all connection with land, and employing a corresponding conception of increasing returns in due relation to it? This might even be a desirable course, were there no other practical illustrations of diminishing returns than those afforded in relation to land. Is it really desirable that henceforth the phrase "diminishing returns" shall be confined in its application to cases where land is a constant element?

II. Some criticisms of and quotations from Professor Marshall's *Principles*, made by Professor Bullock in the course of his article, appear to me to be likely to lead to misconception on the part of readers.

To follow the order of occurrence, we find on page 487 a citation introduced by the phrase, "Professor Marshall cites the following experiment in proof of the law of diminishing returns." When we turn to the *Principles*, p. 231, we find the words used are: "An illustration from recorded experiments may help to make clearer the notion of the return to a marginal dose of capital and labor." It is not even claimed that diminishing returns are illustrated by the few records of an Arkansas experimental station which are quoted. It may be admitted that the influence of economy in organization is clearly excluded in the illustration in question, and thus it may be fairly set over against figures which do reflect that influence. But the assertion that these figures are cited in proof of the law implies a total lack of community of ideas on what constitutes proof between the critic and the criticised.

That Professor Bullock has failed to interpret Professor Marshall justly appears more clearly in connection with his treatment of the English writer's device for handling the relation of value to cost when increasing returns are found. No hint is given that it is this peculiarly difficult case, for the satisfactory treatment of which the device of the "representative firm" is proposed, beyond the words "when he considers other commodities"; i.e., other than raw produce. Can this be taken as a sufficiently precise statement of the class of problem for which this device is used? Moreover, this reference is included under the heading "Supply under Static Conditions." A few pages later the problems of "Supply under Dynamic Conditions" are discussed. Especial attention is paid under that heading to the case "when changing conditions call for a permanent enlargement of the supply." It is worth noting that Professor Marshall, in an article in the *Economic Journal* in March, 1898, wrote of the two parts of his method of handling the problem of increasing returns. The one part was the device above alluded to, the other was the treatment of "the supply price of 'the processes of production.'"<sup>1</sup> It is clear that there is a good deal of what Professor Bullock includes under dynamic conditions which belongs to the problem handled by Professor Marshall under this head. Is it, then, satisfactory to criticise the methods specially devised for handling the problem, while representing them as having reference to static conditions? Immediately following the passage just quoted, these words occur: "It is to be noted that the law of Increasing Return seldom asserts itself in short periods." Turning to the *Principles*, we find a foot-note on page 452 which warns the reader that "the uses of the statical method in problems relating to very long periods are dangerous.... The difficulties and risks of the task reach their highest point in connection with industries which conform to the law of Increasing Return." The conviction can hardly be avoided that "static" does not cover the same ground in the minds of

<sup>1</sup> *Economic Journal*, vol. viii. p. 51.

the two writers. The one is concerned to solve a problem, without special reference to the division of that problem into the parts represented by the terms "static" and "dynamic" in the minds of the other. Need we be surprised that the solution is inadequately criticised? As is set forth in the article in the *Economic Journal* just alluded to, the physical analogy, in view of which economic problems are treated as static or dynamic, is not helpful beyond a certain point. The biological analogies which dominate the exposition by Professor Marshall fit badly into the framework of physical conceptions of Professor Bullock's article. If the critic is dissatisfied, is the point of view from which he frames his judgment the cause rather than the nature of the doctrines on which he passes judgment?

In dealing with the restriction of output, the text and diagrams of the great English writer receive somewhat rough handling from Professor Bullock. Were due attention paid to the text criticised, the severity of the criticism might be modified. The passage declared to involve error occurs on page 525 of the *Principles*. It must, unquestionably, be read in connection with what precedes, and especially what precedes it immediately. On page 516 we find a special warning of the dangers involved in throwing into definite form the statical theory of equilibrium where increasing returns are found. This is followed, on page 518, by a statement that the same supply curve ought not to be used for the purposes of tracing expansion and contraction of production, and the diagram of page 517 is drawn so as to show the kind of modification needed to adapt the supply curve, which represents the conditions of expansion, so as to make it applicable to conditions of contraction of production.

Now Professor Bullock's criticism does not contain a hint that the argument is not set forth in unqualified terms. The readers of Professor Bullock's article are, probably, not all as familiar with the detail of the matter criticised as the critic should have been. In view of this fact it may hardly be doubted that less than justice is done by omitting

all reference to the warnings against a blind acceptance of the apparent implications of the argument.

III. On glancing over the first pages of Professor Bullock's article, the reader is led to anticipate a discussion which will present new points of view, and be eminently helpful. The later pages are, consequently, somewhat disappointing. As an example, let us consider the presentation of what is called a "law of varied costs." It is a commonplace in elementary economics that different parts of the supply of any commodity are raised at different costs. The whole doctrine of rent is based on this conception. But the varied costs in question here are, in part at any rate, costs per unit of output under conditions where the only estimate of cost available depends on the comparison of total output with total expenses. What is embraced by these expenses? Do they, or do they not, include profits? May not the expense of securing the co-operation of the productive factors remunerated by profits be different for different producing establishments? May not this be so, even if the price of labor, of the hire of capital, of raw materials, be at the same level for different producers? In this latter case will there be equality of costs of production, in the sense intended by Professor Bullock, or not?

If we substitute the idea of "supply price" for that of cost, the position is more easily defined. The idea is offered that producers A, B, C, offer their products for sale, being willing to accept prices  $p$ ,  $q$ ,  $r$ , respectively, or any larger price, for them. We assume that the products are identical in nature and quality. If all find a market, and  $p$ ,  $q$ ,  $r$ , are unequal, do we not need an explanation why the producer who is willing to accept the lowest price is not stimulated to enlarge his production? He can, by the hypothesis, secure a return greater than is necessary to adequately remunerate him. Can we call the condition one of equilibrium? So long as a producer can obtain for his product a price higher than that at which he is willing to offer the whole, including the most costly units, if the cost of sepa-

rate units can be distinguished, the conditions of static equilibrium are lacking. Only if there exist some physical limit to the supply of material, or other essential for production,—a limit unable to be overcome at will, or, at any rate, at any cost within the limit of profitable undertaking,—can the permanence of such a condition of supply as that assumed be understood. Apart from such conditions, a supply, by producers competing with each other for the market at varied costs, or at varied marginal costs (if the conception of marginal cost is properly applicable), is surely inconsistent with the persistence of the conditions under which it occurs. No static or stationary state can be conceived in which it would occur. Yet it is precisely as a feature of static conditions that it is dilated upon.

IV. Connected with the foregoing, one other assertion of Professor Bullock's article may be considered in this place. It is the following (*cf.* p. 503):—

"At any given stage of production the normal value must correspond to the cost of furnishing the marginal, or most costly, unit of the actual supply. It is not the average cost, or the cost to a representative firm, but the marginal cost of production that is decisive in fixing the normal value of all commodities."

This clause emphatically asserts that the marginal unit of supply is the most costly unit. That excludes the consideration of any case in which, in the neighborhood of the actual output, an increase or decrease of output would involve a less than proportionate change of cost. Yet it does not appear that Professor Bullock is of those who believe that increasing returns are inconsistent with the persistence of competitive production. Either it must be maintained that increasing returns cannot or do not hold up to the limit of actual output; or that, wherever increasing returns do so occur, competition must be destroyed; or some such device as that of the "representative firm" becomes essential to determine the level of costs which must be incurred as the necessary condition of the maintenance of supply, i.e., the price-determining costs.

In the article there is presented no adequate reason for regarding this third view of the case as untenable. We have the declaration quoted, from which it may be inferred that the first of the three alternatives is believed to be appropriate to the case. Possibly the term "normal" prefixed to value may be held to exclude any case except where decreasing returns occur. But if the term "normal" be used in reference to adjustments of productive equipment to consumptive requirements, such as are feasible in a long period, though not in a short period, conditions of increasing return cannot be refused consideration, and that both for the industry as a whole and for the individual competitors who contribute to the supply. This being the case, the assertions of the paragraph quoted cannot be applicable to all cases of normal value.

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#### CANAL ENLARGEMENT IN NEW YORK STATE.

On November 3, 1903, the people of New York State, by a vote of 673,010 to 427,698, authorized the expenditure of \$101,000,000 for the reconstruction and enlargement of the Erie and other trunk canals in that State. This action definitively inaugurates a project for inland water transportation in the United States which will involve a larger outlay than the extensive internal navigation improvements recently authorized in France, and may produce even greater economic results than the ship canal to connect the Atlantic and Pacific.

In a previous number of this *Journal*<sup>1</sup> there was presented an account of the decline in traffic on the New York canals, the effect of this decline on the commerce of the port of New York, and the initial steps in presenting a plan for canal improvement which forms the basis of the project just adopted. It is the purpose of the present note to

<sup>1</sup> "The New York Canals," by John A. Fairlie, vol. xiv., February, 1900.

trace briefly the history of the plan since that time, and to describe the project for improvements which is now authorized.

Briefly restated, the plan recommended in 1900 by the committee appointed by Governor Roosevelt was for the reconstruction of the Erie Canal, with important changes from the present route, so that it should be navigable by barges drawing ten feet of water and having a capacity of a thousand tons, or four times that of the largest boats which can use the present canal. Realizing the importance of the most thorough preliminary investigation, the committee recommended that the first step should be a careful engineering survey of the proposed routes, on which detailed and accurate estimates of cost could be based. This recommendation was adopted by the legislature of 1900, and an appropriation of \$200,000 was made for this investigation and the preparation of estimates under the direction of the State Engineer and Surveyor.

After a year's work this report on the engineering features of several alternative projects was submitted on February 12, 1901. Had Governor Roosevelt remained in office, it is possible that energetic efforts would have been made to secure further legislative action at that time. But Governor Odell, who succeeded Mr. Roosevelt in January, 1901, was not prepared to urge any specific plan; and in the face of threatened opposition from many members of the legislature nothing further was done during that year.

At the legislative session in 1902 Governor Odell suggested a compromise plan for the completion of the limited improvement begun in 1895 with the construction of locks adapted to the larger canal, which might be built at a later time. Some members of the legislature who were anxious for canal improvement were disposed to accept this compromise; but others were convinced that the smaller improvement was entirely inadequate, and necessarily involved a wasteful expenditure of millions of dollars. By a combination of the members from New York City, who

insisted on the larger project, with those who opposed any canal improvement, the compromise plan was defeated, and further action postponed for another year.

In the election campaign of 1902 the Republican platform contained an indefinite plank in favor of canal improvement, while the Democratic platform strongly indorsed the plan for the thousand-ton barge canal; but during the campaign both of the leading candidates for governor definitely announced themselves in favor of the barge canal project. Accordingly, when the legislature met in January, 1903, Governor Odell, who had been re-elected, presented the larger project with his approval. Several factors led to a revision and substantial increase in the earlier estimates. It was now proposed to enlarge the Oswego and Champlain Canals to the same capacity as the Erie Canal. Prices of labor and material had advanced from the rates in force when the estimates of 1901 were calculated. Revised estimates by the State Engineer, after making allowances for these factors and including 20 per cent. for supervision and contingencies, showed a total cost of \$101,000,000. After considerable discussion and against a strong opposition, mainly from those members of the legislature whose districts were not on the line of the canals, a statute was passed, which became law on April 7, 1903, providing for the issue of bonds to the amount of \$101,000,000 for the enlargement of the canals, if approved (as required by the State constitution) by popular vote at the general election in November.

An active campaign was carried on before the election, both by the friends and opponents of the project. The division of opinion crossed party lines, and, as the final vote indicates, followed sectional districts to a large degree. On both sides logical economic arguments were combined with appeals to local and class interests. In opposition to the project, it was urged in some quarters that the reduction of railroad rates made unnecessary and impracticable any attempt to revive water transportation; while in other quarters it was held that the proposed im-

provement was inadequate, and would only delay or prevent the construction of a ship canal from the lakes to the Atlantic. In favor of the plan, it was shown that railroad rates in the last year or two had shown a tendency to increase; while it was held that the ship canal would not only cost vastly more to construct, but would offer no additional economy in transportation to the barge canal. On the side of the canal were the export interests of New York City, the commercial interests of Buffalo, and the labor unions, which realized the demand for labor which such an undertaking would cause. In opposition were the agricultural communities, especially those at a distance from the canal routes, which could see only the taxation to be levied for the work with no direct benefit to themselves.

At the polls the result, as has been noted, showed a victory for the proposed improvement by the decisive majority of 245,312 in a total vote of over a million. Many parts of the State showed a heavy vote against the plan, and the opposing views of different localities is well illustrated by the geographical distribution of the vote. The bulk of the vote in favor of the improvement came from the eight counties near New York Harbor and the three counties near Buffalo; while only five other counties (Oswego, Cayuga, Albany, Essex, and Ulster) gave a majority for the scheme. Among the forty-five counties voting against the proposition were Onondaga, which includes the city of Syracuse, and Monroe, which includes the city of Rochester. In the last-named case the vote was three to one against the plan. These results are summarized in the following table:—

	<i>For the Plan.</i>	<i>Against the Plan.</i>
8 counties near New York . . . . .	483,331	73,855
3 counties near Buffalo . . . . .	50,649	14,780
5 interior counties . . . . .	40,090	30,908
16 counties for the plan . . . . .	574,070	119,543
45 counties against the plan . . . . .	98,940	308,155
Total vote . . . . .	673,010	427,698

The plan now authorized is usually called one for canal enlargement or canal improvements, but these terms fail to indicate fully what is to be done. More than one-half of the new water routes will be through river channels and lakes; and the canal work involves the construction of new channels and locks, in many places along different routes from the present canals. On the principal route, or Erie Canal, from the Hudson River to Lake Erie, the Mohawk River will be utilized for most of the distance from Waterford to some miles west of Rome. After a short canal section the new route will cross Oneida Lake, and follow the Oneida and Seneca Rivers to Crusoe Creek, about thirty miles west of Syracuse. From this point the enlarged canal will proceed, in the main, along the line of the present canal to the Niagara River at Tonawanda, that river being used for the remainder of the distance to Buffalo. The new route will remove the canal from the business districts of Syracuse and Rochester, but will furnish each of these cities with larger facilities.

The improvement of the Oswego Canal consists practically in making navigable the Oswego River from its junction with the new Erie Canal route to Lake Ontario, furnishing a waterway from that lake to the Hudson River with only thirty-five miles of canal. The new route to Lake Champlain will utilize the Hudson River from Troy to Fort Edward, and thence will follow the present Champlain Canal to the lake.<sup>1</sup>

On all of these routes a channel with a minimum depth of 12 feet is to be constructed. On river sections the minimum bottom width will be 200 feet; on canal sections, 75 feet. The locks, which are the principal factors in limiting the size of vessels, will be 328 feet in length, 28 feet in width, and 11 feet minimum depth. These will permit

	<i>River and Lake.</i>	<i>Canal and Locks.</i>	<i>Total.</i>
Erie Canal . . . . .	174.83 miles	167.83 miles	342.66 miles
Oswego Canal . . . . .	18.04 "	4.80 "	22.84 "
Champlain Canal . . . . .	38.18 "	28.16 "	66.34 "
<b>Total . . . . .</b>	<b>231.05 "</b>	<b>200.79 "</b>	<b>431.84 "</b>

the passage at one time of two boats, each 150 feet long, 25 feet wide, drawing 10 feet of water; and such barges will be the most economical unit for transportation on the new water routes. The size of the barges and the location of the new routes involves the disappearance of the primitive system of horse towage, and requires the use of steam or other mechanical motive power. It is expected that vessels will usually go in fleets of four, one steamer towing three barges. Under these conditions it is estimated that the trip from Buffalo to New York can be made in five days in place of ten days or two weeks, as at present, and at a cost of transportation of 26 cents per ton.

No further legislative action is necessary to supplement the popular approval before beginning work on this extensive plan. The estimates already made cover in detail everything necessary for the construction operations, including not only excavation, locks and dams, but also bridges, harbors at Rochester and Syracuse, water supply, and navigation buoys and lights. The statute of last spring authorizes the letting of contracts, and directs the Comptroller to issue bonds as needed for making payments as the work progresses. Careful provisions are made to secure public bidding and otherwise to prevent any mismanagement in connection with contracts. The governor is authorized to appoint a board of five expert civil engineers to advise the State officers during the progress of the work. These appointments and the first contracts should be made early in 1904, and be followed before long by active operations. No definite statement can yet be made as to the length of time it will take to complete the work. Probably it will be at least five years, while it may be ten years before the whole task is accomplished.

Under the statute as passed, the funds for this work are to be raised by eighteen-year bonds of the State, drawing 3 per cent. interest and payable—as required by the constitution—by a direct general property tax, levied over the whole State. Recent tax legislation in New York has, however, aimed at abandoning the general property tax

as a source of State revenue; and in his message to the legislature in January, 1904, Governor Odell recommends a somewhat complicated plan for raising funds for the canal work partly by indirect taxation and partly by county loans to be repaid later by the State. Whether this or any other method of raising the funds will be adopted it is too early to state. But, if any change is made from the methods prescribed in the statute approved by popular vote, it may result in delaying the commencement of active operations, as the new methods may have to be likewise submitted for popular approval, and will require the adoption of constitutional amendments before they can be put into effect.

In the previous article already referred to, some mention was made of the economic results to be expected from the construction of these water routes. It would be possible to repeat and enlarge on these future prospects, and to show from the continued rapid development of the internal commerce of the United States, both on the great lakes and on the trunk railroads, that these prospects are brighter and more certain than they seemed three years ago. But a full discussion of these considerations must await another opportunity. It may be noted here, however, that the new transportation routes will mean vastly more than a reduction in freight rates on export grain; that they promise even greater results in the transportation of steel, the development of steel manufacture in New York State, and the opening of through water transportation from the lakes to New England via Long Island Sound, and to the Delaware and Chesapeake Bays. And as a single indication of the rapid development of lake commerce, which this project will connect with the sea, it may be observed that the traffic of St. Mary's Fall Canal has risen from 21,000,000 tons in 1898 to the stupendous total of 35,000,000 tons in 1902.

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### THE NEW NEBRASKA REVENUE LAW.

The legislature of Nebraska at its last session enacted a complete new revenue law, which went into effect September 1, 1903. In nearly every other State which has adopted a new revenue code in recent years the measure has been the result of more or less thorough investigation by a revenue commission, and often based in whole or in part on a draft framed by such commissioners in the light of expert testimony. The Nebraska law-makers saw no necessity for a commission of this kind to advise what changes in the existing revenue system had become imperative, and set about the work of revision themselves, through a joint committee of the two houses. The previously existing revenue law was naturally the foundation on which the new structure had to be built. Yet the most potent factor influencing the committee's conclusions seems to have been the report of the Kansas State Tax Commission of 1901 and the bill therein incorporated, which was used as the chief guide in its deliberations. The outcome was peculiar. The recommendations of the Kansas Tax Commissioners, rejected by the Kansas legislature, have been accepted for the most part for Nebraska, and embodied in the new Nebraska revenue law.

It is needless to say that the chief issues joined in the legislature in the formulation of the bill were those relating to the assessment of railroads and other similar corporations. The railroad representatives invoked the recommendations in the Kansas report relating to these subjects, and careful comparison shows that the sections providing for assessment of railroad property are copied verbatim from the proposed Kansas act. When submitted to the legislature, the bill was sent to the regular committees in each house, suffering some amendment in various stages of its passage, but in all substantial parts remaining as drafted by the joint committee.

The new Nebraska law provides for a general property tax, pure and simple. Constitutional limitations leave no other method of taxation open. The article in the State constitution headed "Revenue and Finance" begins:—

The legislature shall provide such revenue as may be needful by levying a tax by valuation, so that every person and corporation shall pay a tax in proportion to his, her, or its property and franchises, the value to be ascertained in such manner as the legislature shall direct.

Passing other constitutional limitations for the present, it is obvious that the task of the law-makers consisted only in fabricating the machinery and outlining the procedure by which this mandate should be executed. Summarized, the salient features of the new law are:—

1. *Machinery of Taxation.*—The unit of assessment is made the county instead of the precinct, and the responsible officer the county assessor instead of the precinct assessor. The position of county assessor is newly created, with a four-year term, the incumbent being ineligible for a second successive term. The county assessor appoints his own deputies (subject to confirmation by the county board) who are employed only for such time as their services may be needed. The compensation for the county assessor is fixed on a sliding scale according to the population of the county; and he is removable by the county board for wilful neglect of duty, in which case the vacancy is filled as are the vacancies in other county offices.

The county board continues to be invested with powers as a board of equalization, and its authority is extended to include the functions of a board of review. Its session as a board of equalization must be held at a stated time annually. Appeals from its decisions lie to the district court at any time within twenty days, the questions involved to be heard as a suit in equity.

The State Board of Equalization and Assessment is likewise continued, although its composition is changed. It is to consist of the governor, auditor, treasurer, secretary of state, and commissioner of public lands, whereas for-

merly it included the three first named only. This board is to perform duties of original assessment with reference to certain kinds of property,—notably the property of railroads,—which reach beyond the jurisdiction of a single county. It meets as a board of assessment in May and as a board of equalization in July. Its powers of equalizing are to be carried out by ordering that a certain per cent. be added to or subtracted from the assessed valuation of the property of the particular counties that are undervalued or overvalued.

The assessment rolls, when completed, find a repository with the county clerks, while the collection of taxes devolves on the county treasurers, supplemented, in case of delinquency, by suits in distress or foreclosure brought by the county attorney through the usual legal channels.

2. *Property Taxable and Exempt.*—The property made taxable is all-inclusive, with the exception of that expressly exempted by the constitution, which includes only:—

(a) All property of State, counties, and municipal corporations.

(b) Property used exclusively for agricultural and horticultural societies, for schools, religious, cemetery, and charitable purposes.

(c) The increased value of lands by reason of fences and forest trees grown and cultivated thereon.

By express definition the term "real estate" is made to include "city and village lots and all other lands and all buildings, fixtures, improvements, mines, minerals, quarries, mineral springs and wells, oil and gas rights and privileges pertaining thereto," and the term "personal property" to include "every tangible and intangible thing which is the subject of ownership and not real property as defined."

All property is to be listed at its full valuation and assessed at 20 per cent. of such valuation. The object of the fractional assessment is to avoid changes in existing limitations on the various levies for general and special purposes, and the limitation on bond issues. The assessments under the old system had been scaled down, by

competitive evasion of the full value requirement, to from 15 to 25 per cent. of actual value.

3. *Assessment of Real Estate*.—Assessment of real estate is to be quadrennial instead of annual, as heretofore. It is within the province of the assessor, however, to add the valuation of new improvements from year to year, as they may be made, and to subtract the valuation of improvements removed or destroyed.

4. *Assessment of Personal Property*.—Personal property is to be listed under a schedule provided by the State Board of Equalization and Assessment, and sworn to by the responsible owner in possession. The schedule is to include everything from a sewing-machine to a bank credit, and the accompanying oath must declare under heavy penalties that no devious devices have been resorted to for temporary transfer of ownership. The property is to be listed at the situs of the owner, except where it appertains to a business establishment, in which case it follows the situs of the business.

The assessing period is from April 1 to June 1, this time having been selected with a special view to finding the farmer with his grain disposed of and his cattle herds at lowest point.

To cover certain classes of property calculated to offer extraordinary difficulties, special provision is made as follows:

(a) Banks are to be taxed on the value of their capital stock, the returns to be made by the officers of the bank and the taxes paid through the bank at its location. To get at the market value, an exhibit must be made, showing the various items of resources and liabilities, and the real estate or other tangible property already taxed, for which the bank is entitled to deductions.

(b) Insurance and Surety Companies. Foreign fire insurance companies are to be taxed on their gross premiums as property at the rate imposed on other property within the same jurisdiction; foreign life and accident insurance companies and foreign surety companies, 2 per cent. on their gross premiums, or receipts; domestic insurance and

surety companies, on their gross receipts, less expenses of reinsurance and cancellations, as an item of property at the rate imposed in the respective jurisdictions. These companies were previously taxed on net receipts only.

(c) Pedlers are subject to a graduated license tax.

(d) Pawn-brokers are to be taxed on the pledges in their possession the same as on their own property.

(e) Grain brokers are to be taxed on the average capital invested in their business, exclusive of real estate and tangible property otherwise taxed.

(f) Street railways, water-works, electric lighting plants, gas-works, natural gas, and all other lighting companies are to be taxed on the value of their property and franchises, based on the market value of their aggregate stocks and bonds.

(g) Express, telegraph, and telephone companies, and pipe lines, are to be taxed on their real estate and tangible property and on their franchises as represented by one year's gross receipts in each assessing district from which such revenue is derived.

(h) Railroad companies traversing more than one county are to be assessed by the State Board of Equalization and Assessment on the value of their property and franchises, full schedules being required from their officers showing mileage, road-bed, main and side tracks and accompanying improvements, rolling stock of various classes, amount of stocks and bonds issued and their market values. After the assessment of the road as a whole is determined, it is to be apportioned among the various counties according to the main line mileage, and reapportioned in the same manner by the county clerk to the various subdivisions within each county. In this way the railroads escape paying municipal taxes upon the larger part of their valuable terminal property in the different cities, the apportionment operating to transplant constructively the terminal values into the rural communities, where no municipal taxes are levied.

(i) Car companies operating stock cars, furniture cars,

refrigerator cars, fruit cars, tank cars, poultry cars, and the like (excepting sleeping-cars), are to be taxed on the valuation of the total number of cars required to make the total mileage of the cars of each company within the State within the period of one year. Sleeping-car companies, on the other hand, are to be taxed on a proportion of the value of the cars operated within the State in the ratio which the mileage traversed within the State bears to the total mileage for the yearly period.

Road tax is retained in the form of an exaction of labor to the value of \$3 from every male inhabitant between twenty-one and fifty years of age. This road tax may be commuted into a cash payment, and must be so commuted in incorporated cities and towns.

5. *Tax Levy*.—The tax levy is a composite of rates fixed by State and local authorities. The State Board of Equalization and Assessment is to determine the rate for State purposes, and certify the same to the various county clerks by August 1 of each year. On its last day of sitting as a board of equalization, the county board is to fix the rate for county, township, city, school district, precinct, village, road district, and other taxes required by law to be levied by it, each subject to statutory limitations. The authorities of cities, villages, townships, and districts authorized to levy taxes, except such cities as are authorized to levy and collect their own municipal taxes (which includes all the larger cities), must certify the amounts to the county clerk, who is to add them in with the State and county levies so as to make a single tax-rate for each district respectively. The taxes, when collected by the county treasurer, are to be distributed among the various funds for which they were levied in proportion to the number of mills credited to each fund.

The new law has already been adjudicated, so far as its constitutionality in general is concerned (*State of Nebraska v. City Tax Commissioner Fleming*—not yet reported). In this decision the Supreme Court of Nebraska, in an opinion rendered December 16, 1903, holds that the rule of uniformity

is not infringed in the sections attacked sufficiently to invalidate the entire statute. Its practical operation, therefore, which in a revenue law more than in most laws depends upon the honesty and impartiality of the administrative officers charged with its enforcement, will be tested first during the coming year.

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#### CAR SERVICE REFORM IN THE UNITED STATES.

The railroads of the United States have been experimenting since July 1, 1902, with a reform in car service which is of interest to students of transportation problems. This is the first time that any general and thorough attempt has been made to depart from the system by which a company whose cars are used by another, is compensated on the basis of mileage run.

The mileage system, which has been in operation until recently, has been very generally regarded as the chief cause of the decline in the promptness and celerity of movement of freight cars. Whatever the causes may be, the fact seems beyond question. While it is probably not true, as is often stated, that ordinary freight cars moved, on the average, 90 miles a day in 1870, a careful estimate shows that 50 miles would be no over-statement. On the other hand, estimates of the average daily movement of railroad-owned freight cars in recent years vary from 19 to 25 miles. At the same time there has been an increase in the proportion of empty to total mileage.

It is clear that under the mileage system adequate compensation has not been secured by the lending roads. An average daily movement of 24 miles for each car, with a compensation of 6 mills per mile, would yield a rental of 14.4 cents per day, or \$52.56 per year. The annual cost for repairing a car has alone been estimated at between \$40 and \$50. If interest and depreciation were added,

the loss would be heavy. Of course, each railroad is a borrower as well as lender, so that, if its loans and borrowings are equal, its loss and gain in car account will balance. But the balance is apparent rather than real. In each particular case the borrowing road gains, under the inadequate mileage payment, at the expense of the lender; and hence there is no incentive to prompt return. The result is that car movement is delayed, and in the long run both roads lose.

Delays have the further inconvenience of unnecessarily increasing the rolling stock; and, conversely, the increase in rolling stock tends to impede the prompt movement of cars. Both the number and capacity of freight cars have been increasing too rapidly for the highest degree of efficiency. The growth of equipment has far outstripped the tonnage growth. Except in the rare instances in which traffic is equal in opposite directions, heavy train tonnage would be a doubtful economy if each company employed only its own cars. But, with borrowed cars, upon a mileage system of compensation there is a temptation to increase the train tonnage at the expense of the lending roads,—a policy which a system of time-payment ought to be able to check.

The mileage system has facilitated other practices which have had no less influence in retarding car movement. Railroads having seaport terminals, and not having adequate warehouse and elevator facilities, were encouraged, by the fact that no rental had to be paid on cars lying idle, to use the cars of other roads as warehouses, while their contents were waiting to be transferred to vessels. But the greatest single factor in the detention of cars was the competition between the traffic departments of rival roads. Shipments "to order" and reconsignments in transit, and, worst of all, the practice of permitting cars to lie idle on sidings, waiting for competitive freight, were encouraged by the mileage charge for cars.

Instead of adopting a per diem system, however, the railroads attempted to secure the needed reform through various half-way measures. The demurrage system was

frequently resorted to, but was inadequate because it imposed penalties upon the shippers rather than upon the borrowing road. Car service associations, formed to take over the supervision of borrowed cars, have accomplished much. But the scope of their activity was limited; and here, again, much that they might have effected was neutralized by the action of the railroads themselves. Other more or less complicated plans have been tried with varying degrees of success.

The straight per diem rental has hitherto been fairly tried but once (in 1876-78), and then only between two roads. The arrangement worked well, but was dropped through failure to enlist the interest of other roads. The question of per diem payments has come up from time to time since then, but the only effect of discussion has been to make railroad conventions weary of the whole problem.

Early in 1901 Mr. J. W. Midgley (former chairman of the Western Freight Association and member of the Joint Rate Committee) undertook the task of interesting the prominent railroads in the plan. He was so successful that a Bureau of Car Performances and Statistics was soon established at Chicago, organized and supported by twenty-eight railroad companies. The Bureau in June, 1901, began to send out circular letters to members, giving results of an investigation as to car mileage.<sup>1</sup> These letters not only created a wide interest, but rapidly won the assent of numerous roads to a trial of the scheme. Finally, the American Railway Association took it up, and it then became certain that a thorough trial would be given.

The per diem method went into operation on the principal roads on July 1, 1902, with the prospect that practically all the railroads of the country would soon come into the agreement. It was promised that the adoption of this system would eliminate the worst forms of competition between the traffic departments of railways, and that it would not be burdensome except to those roads which depended for their cars largely upon borrowing. The fear

<sup>1</sup>It is from these letters that the above facts are derived.

was expressed that this system would tend to increase empty car mileage through the anxiety of roads to return borrowed cars promptly, and thus avoid the daily charge. But the advocates of the plan insisted that the effect would be to increase empty car mileage only where traffic is light, and that this would really be an advantage.

In short, the logic of the whole contention for per diem was well summed up in two sentences which occur in the eleventh of Mr. Midgley's circular letters: "Cars are not built with the view of turning them into storehouses. They are placed upon wheels so that they may *run*, and are primarily intended to carry goods from one point to another as expeditiously as possible."

In July, 1903, at the end of the first year's trial, the per diem principle seemed to meet with universal approval. The controversy, then and since, has turned upon details. Naturally, the most important as well as the most difficult question under discussion has been, What should be the *amount* of the per diem payment? The 20 cent rate, which was originally adopted, remains unchanged, notwithstanding the fact that its inadequacy in many cases is admitted. But a low rate is necessary in order to retain the adherence of important roads (such as those of New England), whose average haul is comparatively short. The rate must also be low enough to be applicable to all sorts of cars, as a classification of cars with corresponding rentals would not be practicable. One or two features of the new rules have operated in an unexpected way, but it is thought that these difficulties can be obviated without much difficulty.

The object of the reform has been completely attained. There has been a considerable increase in the celerity of car movement without increasing empty car mileage; and, now that the new system is passing out of the experimental stage, its advantages will probably become increasingly apparent.

W. H. PRICE.

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THE STEEL CORPORATION'S BOND CONVERSION:  
A CORRECTION.

In the November issue of this *Journal*, Professor E. S. Meade gives prominence to the recent suit of Mr. Hodge against the Steel Corporation, referring to it as generally considered a "strike suit." If he had made careful inquiry, he would not have used this language. That the defendants in this suit could obtain a withdrawal without pecuniary outlay was well known to them. Mr. Hodge's offer of withdrawal, made through me in writing at an early stage of the litigation, asked simply a resubmission of the scheme to the stockholders with full information as to its main features, or else its modification by taking from the Morgan syndicate all advantage over the other preferred stockholders, giving it no longer option to subscribe for the bonds, no greater time to pay subscriptions, and no commission except upon the amount which the syndicate should absolutely bind itself to underwrite.

The point upon which the Vice Chancellor decided the case in Mr. Hodge's favor, if sustained, would have forced a resubmission to the stockholders. It would probably then have been voted down. The notice upon which their proxies had been obtained had been so drawn as to give the impression that the whole bond issue had been underwritten; and the syndicate's extraordinary option was not apparent. The stockholders were indeed informed that by calling at the Morgan office they could secure complete copies of the proposed contract; but, as Professor Meade truly says, nobody called. Each assumed that he had enough information, and did not need to examine legal documents. The most interesting question to the public in the Hodge suit was whether this notice sufficiently discharged the duties of the directors. The New Jersey court held that it did. Other courts have set up a much higher standard, and required of interested directors the fullest disclosure. The

standard set by the State which has fathered so large a proportion of the modern "trusts" has had no small influence upon public confidence in their securities.

Time has already vindicated Mr. Hodge. Public sentiment recognizes this, and has forced the surrender of the syndicate option. Mr. Schwab's valuations have been condemned by the market, and by the abandonment of dividends, to the loss of so many common stockholders. The principle of his valuation, that in bonding a company it should be capitalized on the basis of the profits of a year of prosperity, instead of upon the availability of its assets in a period of depression, was never indorsed by conservative men, although it passed muster with the New Jersey courts.

The fact that Mr. Hodge was publicly joined as complainant by no other stockholder of record was not due to lack of sympathy,—of that he received a plenty,—but to two conditions which are among those that most contribute to the success of the modern "trust" financier. Persons with large interests at stake cannot afford to join openly, because they are afraid that the dominant powers in Wall Street may take revenge by attacking their financial credit and excluding them from profitable enterprises. Small stockholders have not sufficient interest pecuniarily to justify the annoyance and notoriety and the newspaper abuse to which they would be subjected. Even necessary expert testimony is difficult and expensive to obtain, through fear of boycott; and the swiftness with which the directors' plans are carried through after their announcement leaves stockholders but little time for consultation and none for deliberate action. It is only when the plans fail for other causes, as in the shipbuilding case, that the minority have time for investigation or combined action.

EDWARD B. WHITNEY.

NEW YORK.

## RECENT PUBLICATIONS UPON ECONOMICS.

*Chiefly published or announced since November, 1903.*

*An asterisk prefixed to a title indicates a second and more detailed notice of a book announced in a previous number*

I. General Works. Theory and its History.	VIII. Money, Banking and Exchange.
II. The Labor Problem.	IX. Finance and Taxation.
III. Socialism.	X. Capital and its Organization: Combinations.
IV. Land and Agrarian Problems.	XI. Economic History.
V. Population and Migration.	XII. Description of Industries and Resources.
VI. Transportation.	XIII. Statistical Theory and Practice.
VII. Foreign Trade and Colonization.	XIV. Not Classified.

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[A useful contribution to the history of economic theory. The author draws upon Tucker's least known works, and gives many extracts from them. The materials are well arranged, and handled with good judgment. Eighteen pages are devoted to a valuable bibliography.]

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## V. POPULATION AND MIGRATION.

- GUAZZONE (G.).** Emigrazione e colonizzazione: progetto. Turin. 1903. 8vo. pp. 110.
- HAUSHOFER (M.).** Bevölkerungslehre. Leipzig: Teubner. 1904. 8vo. pp. vi, 128. 1.25 m.
- JUGLAR (C.).** Tableau des naissances en France, en Angleterre, en Prusse, en Allemagne, 1850-1900. Y a-t-il des périodes pour les mariages et les naissances comme pour les crises commerciales? Paris: Guillaumin. 1903. 8vo. 1.50 fr.
- LENZI (O.).** Crescite ed espandevi: studio e conseguenze della teoria della popolazione. Siena: Enrico Torrini. 1903. 8vo. pp. 74.
- NEUMANN (F. J., Herausgeber).** Beiträge zur Geschichte der Bevölkerung in Deutschland seit dem Anfang des 19 Jahrhunderts. Bd. VII. H. Lang, Die Entwickel-
- lung der Bevölkerung in Württemberg. Tübingen: H. Laupp. 1903. 8vo. pp. xii, 247. 9 m.
- NICOLAI (E.).** La dépopulation des campagnes et l'accroissement de la population des villes. Brussels: Weissenbruch. 1903. 8vo. pp. 70.
- YUNG (J.).** Famille population. Étude critique des moyens actuellement proposés pour favoriser l'accroissement de la natalité en France. Paris: Pedone. 1903. 8vo. pp. 250. 5 fr.
- UNSigned.** Emigrazione e colonie: raccolta di rapporti dei rr. agenti diplomatici e consolari. Vol. I. (Europe), pt. 1 (France). (Ministero degli affari esteri.) Rome: G. Bertero & C. 1903. 8vo. pp. ix, 344. 2 l.
- [A valuable report on Italian emigration of the last ten years.]

## VI. TRANSPORTATION.

- DEMOLINS (E.).** Comment la route crée le type social. Vol. II. Les routes du monde moderne. Paris: Firmin-Didot. 1903. 18mo. pp. 533. 3.50 fr.
- [The volume upon the routes of antiquity appeared several years ago.]
- GODET (A.).** Recueil de la législation des chemins de fer d'intérêt général. Paris: Rousseau. 1903. 8vo. pp. 391. 8 fr.
- JUNG (J.).** Der Weltpostverein u. sein Einfluss auf dem Weltverkehr u. die Weltwirtschaft. Strassburg: J. H. E. Heitz. 1903. 8vo. pp. iv, 46. 3 m.
- MIGOULINE (P.).** Les chemins de fer en Russie 1893-1902. 1903. 8vo. pp. 360.
- RENTY (E. de).** Les chemins de fer coloniaux en Afrique. Paris: Rudeval. 1903. 18mo. pp. 156. 1.50 fr.
- In Periodicals.*
- ADAMS (A. D.).** Reasonable Rates. Journ. Polit. Econ., Dec.
- CHAMBERLAIN (D. H.).** The Northern Securities Company Case: A Reply to Professor Langdell. Yale Law Journ., Dec.
- FAZIO (A.).** La navigazione interna in Italia. Riforma Sociale, Oct.
- HUEBNER (S.).** Distribution of Stockholdings in American Railways. Annals Amer. Acad., Nov. [A somewhat uncritical compilation of data.]
- LANGDELL (C. C.).** The Northern Securities Case and the Sherman Anti-trust Act. Harv. Law Rev., June. [A vigorous criticism of the decision of the circuit court.]
- MARCHANT (Sir H. D. Le).** The Government Measure for the Port of London. Nat. Rev., Jan.
- MATTHESIUS.** Russische Eisenbahnpolitik im neunzehnten Jahrhundert von 1836-1881. [Continuation.] Archiv f. Eisenb., 1903, 6.
- MONZILLI (A.).** Il problema ferroviario; esercizio privato; esercizio di stato. L' Italia Moderna, July (Vol. I, No. 1).
- PIERSON (N. G.).** The Railway

- Strikes in Holland. *Econ. Journ.*, Dec. [Of a purely descriptive character.]
- POLLOCK (Sir Frederick). The Merger Case and Restraint of Trade. *Harv. Law Rev.*, Jan. [Unfavorable, on the whole, to the legality of the merger.]
- TUNELL (G. S.). American and European High-speed Trains. *Journ. Polit. Econ.*, Dec.
- WIEDENFELD (K.). Die Einheitsbewegung unter den Eisenbahnen der Vereinigten Staaten von Amerika. *Archiv f. Eisenb.*, 1903, 6. [A review of the process of railway combination in the United States, based largely upon the Report of the Industrial Commission.]

## VII. FOREIGN TRADE AND COLONIZATION.

- AGACY (H. A.). Free Trade, Protection, Dumping Bounties, and Preferential Tariffs. London: Longmans. 1903. 8vo. pp. 83. 2s. 6d.
- ASHLEY (W. J.). The Tariff Problem. London: King. 1903. 8vo. pp. 210. 2s. 6d.
- [An able defence of Chamberlain's policy chiefly on the following grounds: (1) the efficacy of retaliation, (2) "anti-dumping," (3) the slightness of the prospective burden on commerce.]
- BONAR (J.). Interference with Foreign Trade. London: Murray. 1903. 8vo. 6d.
- [A supplementary chapter to the author's "Elements of Political Economy," recently published.]
- BYLES (J. B.). Sophisms of Free Trade and Popular Political Economy. London: Lane. 1903. 8vo. pp. 424. 3s. 6d.
- [A treatise in favor of protection, published in 1849. The editors, W. S. Lilly and C. S. Deras, have added an introduction and notes, which are, in part, concerned with the present British fiscal controversy.]
- CAILLARD (Sir V. H. P.). Imperial Fiscal Reform. London: Arnold. 1903. 8vo. pp. 288. 3s. 6d.
- [Advocates preferential trade relations with the colonies.]
- CHAMBERLAIN (J.). Imperial Union and Tariff Reform. Speeches delivered from May 15 to Nov. 12, 1903. London: Richards. 1903. 8vo. pp. 212. 1s.
- COX (H., editor). British Industries under Free Trade. Essays by Experts. London: Unwin 8vo. pp. 376. 6s.
- [Valuable.]
- DARCY (J.). Cent années de rivalité coloniale. L'Afrique. Paris: Perrin. 1903. 8vo. pp. 480. 7.50 fr.
- FARRAR (Lord). Free Trade versus Fair Trade. New edition with notes and latest statistics by C. H. Cromley. London: Free Trade Union. 8vo. pp. 465. 5s.
- FIDEL (C.). Les intérêts économiques de la France au Maroc. Le commerce du Maroc de 1900 à 1901. Paris: Challamel. 1903. 8vo. 4 fr.
- GIRUAULT (A.). Principes de colonisation et de législation coloniale. 2<sup>e</sup> éd. augmentée. 2 vols. Paris: Larose. 1903. 18mo. pp. 352. 12 fr.
- MACFARLANE (J. J.). The World's Commerce and American Industries, graphically illustrated by Eighty-six Charts. Philadelphia: Philadelphia Commercial Museum. pp. 112. 50 cts.
- MASSINGHAM (H. W., editor). Labor and Protection. London: Unwin. 1903. 8vo. pp. 322. 6s.
- [Essays by various labor leaders against Mr. Chamberlain's policy.]
- MONEY (L. G. C.). Elements of the Fiscal Problem. London: P. S. King & Son. 1903. 8vo. pp. 237. 3s. 6d.
- [A strikingly successful attempt to set forth the free trade side of the British fiscal controversy.]
- NICKLISCH (H.). Handelsbilanz u. Wirtschaftsbilanz. Tübingen: W. Klöres. 1903. 8vo. pp. xiii, 131. 3 m.

- PICOU (A. C.). *The Riddle of the Tariff.* London: Johnson. 1903. 8vo. pp. 107. 1s.
- RECLUS (D'E.). *Patriotisme-colonisation.* Paris: Tempa Nouveaux. 1903. 8vo. pp. 442. 9 fr.
- TRUCHY (H.). *La nouvelle législation des sucre.* Paris: Giard et Brière. 1903. 18mo. 2 fr.
- WARREN (M.). *The Trade of the Great Nations.* London: P. S. King & Son. 12mo. pp. 28. 6d. [An analysis of the trade statistics of four leading countries to show that England's commercial primacy is not in jeopardy.]

*In Periodicals.*

- BACCELLI (A.). *I trattati di commercio.* Nuova Antologia, Dec.
- BELL (H.). Protection and the Steel Trade. *Independent Rev.*, Oct. [This industry, alleged to be declining, is in fact prosperous.]
- BERNSTEIN (E.). Protection and Labor in Germany. *Independent Rev.*, Nov.
- . The Growth of German Exports. *Contemp. Rev.*, Dec. ["It has been more damaged than benefited by Protective duties."]
- BISHOP (J. R.). The Free Trade Revolt in England. *Internat. Quart.*, VIII, 2. [Chiefly descriptive.]
- BOOTH (Charles). Fiscal Reform. *Nat. Rev.*, Jan. [Advocates moderate protection.]
- BOWLEY (A. L.). The Prices of Imports and Exports of the United Kingdom and Germany. *Econ. Journ.*, Dec. [Since 1881 imports have fallen at the same rate, but the prices of exports of the United Kingdom have fallen more slowly.]
- BURNS (J.). Labor and Free Trade. *Independent Rev.*, Nov. [Declares that English laborers oppose protection.]
- CANNAN (E.). Colonial Preference. *Independent Rev.*, Oct. [Argues vigorously against it.]
- EINAUDI (L.). La controversia doganale in Inghilterra. *Riforma Sociale*, Oct.
- ELTZBACHER (O.). The Fiscal Controversy. Some Noticeable Facts and Extracts. Nineteenth Cent., Oct. [Extracts from documents written by Bismarck, showing the genesis of the protectionist movement in Germany.]
- FLUX (A. W.). Preferential Tariffs and Canadian Interests. *Econ. Journ.*, Dec. [Non-committal.]
- FRANÇOIS (G.). Il commercio estero degli Stati Uniti. *Giorn. degli Econ.*, Oct.
- GIFFEN (Sir R.). Ineffectual Preferences. Nineteenth Cent., Jan. [The proposed preferences would be ineffectual.]
- HELM (E.). Protection and the Cotton Industry. *Independent Rev.*, Nov. [Strongly anti-protectionist.]
- HEWINS (W. A. S.). The Present State of the Case for Mr. Chamberlain's Policy. *Fort. Rev.*, Oct. [Favorable to that policy.]
- KIDD (B.). The Larger Basis of Colonial Preference. Nineteenth Cent., Jan. [Colonial preference is the natural result of imperialism.]
- MONZILLI (A.). La questione dei trattati di commercio. *L' Italia Moderna*, July (Vol. I, No. 1).
- MORGAN (S.). The Foreign Fruit Trade in Britain. Nineteenth Cent., Dec. [Useful.]
- PALGRAVE (R. H. L.). The Economic Condition of the Country. *Nat. Rev.*, Nov. [The differential taxation of food is favored.]
- PRICE (L. L.). Economic Possibilities of an Imperial Fiscal Policy. *Econ. Journ.*, Dec.
- . The Economic Prejudice against Tariff Reform. *Fort. Rev.*, Nov. [Both articles argue in favor of the Chamberlain policy.]
- SCHUSTER (F.). Foreign Trade and the Money Market. *Monthly Rev.*, Jan. [An important article by the President of the Union Bank of London.]
- SMITH (G.). Canada and Mr. Chamberlain. *Monthly Rev.*, Oct.
- TAYLOR (W. G. L.). Relative Importance of our Foreign Trade. *Journ. Polit. Econ.*, Dec.
- VERKAUF (L.). Agrarschutz u. Socialreform. *Archiv f. soz. Gesetzg. u. Statistik*, 1903, 3 and 4. ["The quintessence of protection

to agriculture and its scheme of social reform is—to take from the weak and give to the strong."]  
**WARREN (M.).** The Trade of the Empire. Contemp. Rev., Oct.

**UNSIGNED.** The Economics of Empire, II. Preference and Food Supply. Nat. Rev., Dec., Supplement.

### VIII. MONEY, BANKING AND EXCHANGE.

**BOLLES (A. S.).** Money, Banking, and Finance. New York: American Book Co. 1903. 12mo. pp. 336.

[A text-book of banking methods and organization.]

**FITZGERALD (A. L.).** The Thirty Years' War on Silver. Chicago: Ainsworth & Co. 1903. 12mo. pp. 364. \$1.50.

[Valueless.]

**HAMANDE et BURNY.** Histoire et statistique des caisses d'épargne en Belgique. 2 vols. Louvain: Fonteyn. 1902.

**HICHT (F.).** Die Organisation des Bodenkredits in Deutschland. 2 Abtlg., I. Bd. Die Statistik der Hypothekenbanken. Leipzig: Duncker & Humblot. 1903. 8vo. pp. xxiii, 796. 25 m.

**KIGA (K.).** Das Bankwesen Japans. Leipzig: A. Deichert. 8vo pp. vi, 197. 4 m.

**KIRSON (A.).** The Money Problem. London: Richards. 1903. 8vo. pp. 231. 3s. 6d.

**MAGRAFF (A. W.).** International Exchange: Its Terms, Parts, Operation and Scope, and its Administration by American Bankers. Chicago: Fergus Printing Co. 1903. 8vo. pp. 299. \$5.

[This work will prove a useful sequel to Clare's "Foreign Exchange."] [

**MEXICAN COMMISSION ON INTERNATIONAL EXCHANGE.** Stability of Exchange. Steadiness of the Price of Silver Bullion. London: Albert E. Bailey. 1903. 8vo. pp. 152.

[Miscellaneous documents and statistics concerning proposed currency reforms in silver-using countries.]

**MIGOULINE (P.).** La réforme monétaire et la crise industrielle en Russie 1893-1902. 1902. 8vo. pp. 324.

**OBST (G.).** Notenbankwesen in den Vereinigten Staaten von Amerika. Leipzig: C. E. Pöschel. 1903. 8vo. pp. viii, 104. 2.40 m.

**PRAGER (M.).** Die Reichsbankidee in den Vereinigten Staaten von Amerika. Berlin: N. Simion, Nf. 1903. 8vo. pp. 64. 2 m.

**VEREIN F. SOCIALPOLITIK** (Issued by). Die Störungen im deutschen Wirtschaftsleben während der Jahre 1900, ff. I., II., III., IV., VI. VII. Bde. Leipzig: Duncker & Humblot. 1903. 8vo. 8.80 m.

[These important studies deal, respectively, with the following industries: I. Textiles; II. Coal and Iron; III. Machinery, Electrical, Ship-building, Paper; IV. Transportation; VI. Banking; VII. Mortgage-banking, Real-estate Markets, Building Trades. Other studies are to follow.]

**WARSCHAUER (O.).** Physiologie der deutschen Banken. Berlin: W. Baentsch. 1903. 8vo. pp. iii, 112. 4 m.

**WERMERT (G.).** Börse, Börsengesetz, u. Börsengeschäfte. Karlsruhe: J. Lang. 1903. 8vo. pp. vii, 391. 7.60 m.

#### In Periodicals.

**CLOW (F. R.).** Quantity Theory and its Critics. Journ. Polit. Econ., Sept. [Defends the quantity theory.]

**ELSTUB (E.).** Municipal Borrowing, and its Effect, Immediate and Ultimate, upon the Business of Banking. Journ. Inst. of Bankers, Oct. [Presents a discouraging view of the outlook.]

**GAINES (M. W.).** Effects of the Silver Standard in Mexico. Yale Rev., Nov. [Urges the adoption of the gold standard.]

**HOURWICH (I. A.).** Production and Consumption of the Precious

- Metals: II. Silver. *Journ. Polit. Econ.*, Sept.
- JOHNSON (J. F.). A New Theory of Prices. *Pol. Sci. Quart.*, Sept. [A criticism of the views of Laughlin and Scott.]
- LANDMANN (J.). La question des banques d'émission en Suisse. *Histoire et état actuel. Rev. d'Econ. Pol.*, Dec. [Criticizes the method of decentralized emission, still followed in Switzerland.]
- LEXIS (W.). Die Fixierung des Wechselkurses in den Silberwährungs ländern. *Jahrb. f. Nat. Oek.*, 26, 3. [Evoked by the visit of the "American-Mexican Silver Commission" to Berlin.]
- SCHULZE (A.). Die Bankkatastrophen in Sachsen im Jahre 1901. *Zeitschr. f. d. ges. Staatsw. Ergänzungsheft IX.*

## IX. FINANCE AND TAXATION.

- ACHARD (A.). La justice dans l'im- pôt. Paris: Fischbacher. 1903. 16mo. pp. 224. 3 fr.
- CAILLAUX (J.). Les impôts en France. Tome I. Contributions directes. Tome II. Contributions indirectes, monopoles, octrois, douane, postes, télégraphes, et tél-éphones. Paris: Chevalier-Marescq. 1903. 8vo. 7.50 fr. each.
- CHARTON (A. P.). Introduction du système financier de la confédération suisse. Paris: Giard et Brière. 1903. 8vo. 2 fr.
- DUBOIS (E.). Exposé sommaire du régime budgétaire et fiscal de la Belgique. Paris: Giard et Brière. 1903. 8vo. 2 fr.
- GEORGI (O.). Der Staatshaushalt des Königl. Sachsen seit 1880. Leipzig: Duncker u. Humblot. 1903. 8vo. pp. iii, 136. 2.40 m.
- GINSBERG (E.). Die deutsche Brantweinbesteuerung, 1887-1902. Stuttgart: J. G. Cotta. 8vo. pp. viii, 93. 2 m.
- JEZE (G.) und BOUCARD (M.). Cours élémentaire de science des finances et de législation financière fran-çaise. Nouvelle édition mise au courant. Paris: Giard et Briere. 1904. 8vo. 10 fr.
- KINSMAN (D. O.). The Income Tax in the Commonwealths of the United States. New York: Macmillan. 1903. 8vo. pp. 128. \$1. [A useful study. Publications of the American Economic Association.]
- MIGOULINE (P.). Le crédit public en Russie. 1901. 8vo. pp. 114.
- NEYMARCK (A.) et MORON. La statistique internationale com- parée des charges fiscales qui pèsent sur divers pays sur les com- mercants et les industriels. Paris: Guillaumin. 1903. 4to. pp. 28. 1 fr.
- NOSTITZ (H. von). Grundzüge der Staatssteuern im Königl. Sachsen. Jena: G. Fischer. 1903. 8vo. pp. viii, 244. 3 m.
- PETRITSCH (Leo). Zur Lehre von der Ueberwälzung der Steuern, mit bes. Bezieh. auf den Börsen- verkehr. Graz: Leuschner & Lubensky. 8vo. pp. 85. 2 m. [The incidence of taxes on the transmission of: 1. Real property; 2. Commodities on exchanges (Wa- renterminhandel); 3. Securities on stock exchanges. The general conclusion is that all these taxes tend to be shifted, and tend to diminish the capital available for production. The author is Privat-Dozent at Graz.]
- SCHWARZ (O.) und STRUTZ (G.). Der Staatshaushalt u. die Fi- nanzen Preussens. II. Bd., 4 Lfg. Berlin: J. Guttentag. 1903. 8vo. pp. xii, 343. 9 m.
- WAGNER (W.). Die finanzielle Mit- beteiligung der Gemeinden an Kulturellen Staatsseinrichtungen. Jena: G. Fischer. 1904. 8vo. pp. v, 72. 1.50 m.
- In Periodicals.*
- BASTABLE (C. F.). Taxation for Revenue as a Canon of Public Finance. *Econ. Journ.*, Dec. [An able argument for "taxation for revenue."]
- CARANO-DONVITO (G.). Il nostro

- sistema tributario e la crisi meridionale. *Riforma Sociale*, Dec.
- EICHMANN (D.). Die württembergische Steuerreform. Ann. des Deutsch. Reichs, 1904, 1. [Discusses chiefly the income tax of 1903.]
- HAMPKE (C.). Die Besteuerung der Genossenschaften in Preussen. *Jahrb. f. Nat. Oek.*, 26, 3.
- KESTNER (F.). Betrachtungen zur Reichsfinanzreform. Ann. des Deutsch. Reichs, 1903, 12. [The author urges that the beer and tobacco taxes be reformed, and their productivity increased so that the direct contributions of the German states can be dispensed with. In the proposed system the elastic element is to be supplied by taxes on transactions.]
- SEGNER (F.). Die bayrische Staats-schuld. *Finanz-Archiv*, 20, 2. [The only systematic study of this subject.]
- SODOFFSKY (G.). Die Abgaben von Hunden in Grossbritannien u. Irland. *Finanz-Archiv*, 20, 2.
- VOCKE (W.). Indirekte Steuern. *Finanz-Archiv*, 20, 2. [The author repeats his peculiar views concerning the nature of indirect taxes.]
- ZWIEDINECK-SUDENHORST (O. von). Praxis u. Theorie der Immobilienbesteuerung. *Finanz-Archiv*, 20, 2. [A valuable review of existing legislation, with some discussion of the theory of registration and succession taxes.]

#### X. CAPITAL AND ITS ORGANIZATION: COMBINATIONS.

- COLLIEZ (A.). Les coalitions industrielles et commerciales d'aujourd'hui. Trusts, cartels, corners. Paris: Guillaumin. 1904. 8vo. pp. 622. 6 fr.
- DARWIN (L.). Municipal Trade. The advantages and disadvantages resulting from the substitution of representative bodies for private proprietors in the management of industrial undertakings. New York: E. P. Dutton & Co. 1903. 8vo. pp. 464. \$3.50.
- [Probably the most thorough-going discussion which has yet appeared.]
- LAFARGUE (P.). Les trusts américains, leur action économique, sociale, politique. Paris: Giard et Brière. 1903. 18mo. pp. 146. 1.50 fr.
- YOUNG (T. E.). Insurance: A Practical Exposition for the Student and Business Man. London: Pitman. 1903. 8vo. pp. 339. 7s. 6d.
- UNSIGNED. Kontraktorische Verhandlungen über deutsche Kartelle. 4 Heft. Ueber den Verband der Druckpapier-Fabriken. Berlin: F. Siemenroth. 8vo. pp. 800. 10 m.
- In Periodicals.*
- ADAMS (A. D.). State Control of Trusts. *Pol. Sci. Quart.*, Sept. [Contends for the effectiveness of State control.]
- CLARK (J. B.). Monopoly and the Struggles of Classes. *Pol. Sci. Quart.*, Dec. [Anticipates the development of arbitration tribunals.]
- GIRETTI (E.). La Società di Terni, il governo ed il "trust" metallurgico. (First article.) *Giorn. degli Econ.*, Oct.
- HUMES (A. L.). Power of Congress over Combinations affecting Interstate Commerce. *Harv. Law Rev.*, Dec. [Argues that these powers are far-reaching, and that a constitutional amendment is unnecessary.]
- LANDMANN (R. von). Die amtlichen Erhebungen über das deutsche Kartellwesen. Ann. des Deutsch. Reichs, 1904, 1. [A convenient review of the recent official investigation.]
- MACROSTY (H.). The Grainmilling Industry: A Study in Organization, II. *Econ. Journ.*, Dec. [Conclusion.]
- MEIER (W. F.). What Attitude should the Government assume toward the Trusts? *Amer. Journ. Soc.*, Sept. [A poor rehash of familiar arguments.]

**WALKER** (F.). *The Sugar Situation in Austria.* Pol. Sci. Quart., Dec. [Describes the difficulties of Austria in extricating herself from the bounty system.]

## XI. ECONOMIC HISTORY.

**CHEMIN-DUPONTÈS** (P.). *Les compagnies de colonisation en Afrique occidentale sous Colbert.* Paris: Challamel. 1903. 16mo. 3 fr.  
**CUNNINGHAM** (W.). *The Growth of English Industry and Commerce in Modern Times.* Part I. Mercantilism. Part II. Laissez Faire. Cambridge: University Press. 1903. 8vo. pp. 1089. 25s.

[This important work has been enlarged and entirely recast, and its general conclusions modified in consequence of much new material, chiefly from MS. sources.]

**HUSSON** (F.). *Artisans français. Les maçons et tailleurs de pierre. Étude historique.* Paris: Marchal. 1903. 8vo. 5 fr.

**LALLEMAND** (L.). *Histoire de la charité.* Vol. II. *Les neufs premiers siècles de l'ère chrétienne.* Paris: Picard. 1903. 8vo. 5 fr.

[The first volume upon antiquity and the third upon the Middle Ages have already appeared. A fourth and a fifth volume are in preparation to bring the study down to the current period.]

**LEBEAU** (A.). *La condition des gens de couleur libres sous l'ancien régime.* Paris: Guillaumin. 1903. 8vo. pp. 123. 4 fr.

**LEMAITRE** (A.). *Briouze à travers les âges. Étude spéciale de la condition des cultivateurs et paysans briouzains sous le régime féodal.* Paris: Pedone. 1903. 8vo. 6 fr.

**MURRAY** (A. E.). *Commercial Relations between England and Ireland.* London: P. S. King & Son. 8vo. pp. 486. 10s. 6d.

[An excellent work showing extensive research, prepared as a thesis for the doctorate in economics at the University of London.]

**SERRES** (B. de). *Les variations monétaires sous Philippe-le-Bel.* Paris: Picard. 1903.

**UNSIGNED.** *Bilanci generali.* Vols. II., III. (1736-55). Venice: Valsentini Federico. 8vo. pp. xl, 509; xciv, 357.

[Issued by the royal commission for the publication of the financial documents of the Venetian Republic. Vol. I. has not yet appeared.]

*In Periodicals.*

**ASHLEY** (W. J.). *Early Teutonic Society.* Internat. Quart., VIII, 2. [An interesting review of the "mark theory" and its successors.]

**BELLOW** (G. von). *Die Entstehung des modernen Kapitalismus.* Historische Zeitschrift, 1903, 3. [A damaging criticism of a part of Sombart's *Der moderne Kapitalismus*.]

**DUCLAUX** (M.). *The French Peasant.* II. Contemp. Rev., Oct. [Since 1789.]

**LAW** (A.). *Some Notable "King's Merchants."* Econ. Rev., Oct. (Orlandinus de Podio of Lucca.)

## XII. DESCRIPTION OF INDUSTRIES AND RESOURCES.

- AFTALION (A.).** La crise de l'industrie linière et la concurrence victorieuse de l'industrie cotonnière. Paris: Larose. 1904. 18mo. pp. 183. 3.50 fr.
- ANSPACH (A.).** La Russie économique et l'œuvre de M. de Wette. Le Soudier. 1903. 18mo. pp. 360. 3.50 fr.
- ASHLEY (W. J., editor).** British Industries. A Series of General Reviews for Business Men and Students. London: Longmans. 1903.
- [Ten lectures by representatives of various industries, delivered at the University of Birmingham.]
- BONTEMPELLI e TREVISANI.** Rivista industriale, commerciale, e agricola della Sicilia. Milan. 1903. 8vo. pp. 423. 20 l.
- BRACKEL (F. von) u. LEIS (J.).** Der dreissigjährige Petroleum-Krieg. Berlin: J. Guttentag. 1903. 8vo. pp. xvi, 464. 7 m.
- BRIDGE (J. H.).** The Inside History of the Carnegie Steel Company. A Romance of Millions. New York: Aldine Book Co. 1903. 8vo. pp. 369.
- [The author was formerly an "assistant in literary work" for Mr. Carnegie. Some gossip, and discussion of the personal qualities of the individuals concerned, but also much material useful for economic history.]
- CHISHOLM (G. G.).** A Handbook of Commercial Geography. London: Longmans. 8vo. pp. 639. 15s.
- [A new edition revised and enlarged.]
- FREDERIKSEN (N. C.).** Finland, its Public and Private Economy. London: E. Arnold; New York: Longmans, Green & Co. 1902. 8vo. pp. 306.
- [An excellent account of the country's agriculture, manufactures, commerce, monetary system, public finance, and political organization. The author was formerly professor at Copenhagen.]
- GOTTHIRMER (E.).** Studien über die Wuppertale Textillindustrie. Leipzig: Duncker u. Humblot. 1903. 8vo. pp. vii, 96. 2.20 m.
- HOGGE-FOUR (J.) et DERY (F. D.).** L'Espagne nouvelle. Étude économique. Brussels: Lebègue. 1903. 8vo. pp. 122.
- KRELLER (E.).** Die Entwicklung der deutschen elektrotechnischen Industrie. Leipzig: Duncker u. Humblot. 1903. 8vo. pp. viii, 63. 1.80 m.
- MARTIN (G.).** Problèmes transatlantiques. Paris: Rousseau. 1903. 8vo. pp. 190. 4 fr.
- NETON (A.).** L'Indo-Chine et son avenir économique. Paris: Perrin. 1903. 18mo. pp. 290.
- NITTI (F. S.).** Napoli e la questione meridionale. Naples: Luigi Pierro. 1903. 8vo. pp. vi, 172. 2 l.
- ROMBURG (P. von).** Les plantes à caoutchouc et à gutta-percha cultivées aux Indes Néerlandaises. Paris (imprimé à Batavia): Challamel. 1903. 8vo. 25 fr.
- SAYOUS (André E.).** Le Wyoming; et Considérations Générales sur le "Far West." Paris: L. Larose. 8vo. pp. 47.
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